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American
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A Message to Gas Men

President Klumpp Commends Enthusiasm

This is a great gathering of great fellows! They have been enthusiastic at past conventions, but never in the history of the American Gas Association have the officers and the soldiers in the ranks put themselves, body and soul, in the work of the convention as they are now doing.

The gas industry, as a result of this enthusiasm, this get-together spirit, must and will go forward. We have just begun to realize what a golden field of opportunity lies before us. Our efforts in the past have hewn the path to this land of accomplishment. We are now building a broad, smooth highway, a highway which will lead us to wealth and prosperity.

I am not, in any way, minimizing the amount of work done at former conventions, nor do I mean to imply that the men of the industry have been lukewarm in the past, but I am firm in the belief that we have only recently awakened to the full realization of the possibilities which lie before us. The enthusiasm the rank and file of our membership is displaying might be attributed to the accumulative effect of the six conventions we have held. Each year the attendance has been larger, each year the exhibits of appliances and equipment have been more beautiful, more complete and have shown remarkable advancement in the ways found to use gas as a fuel.

Papers have been carefully prepared, not a few pages of generalities, but real meat. If there is any phase of the gas business which has not been thoroughly investigated, and the result of such investigation passed on to the individual members of the Association, I do not know it.

The attendance at the general sessions has been an inspiration to

Ex-President Klump has a final message to gas men.

the speakers, it has been an incentive to do even better things. Every meeting of every section has been largely attended, a real interest has been shown in each report and each paper. The discussions have shown that the commercial, the technical, the industrial, the publicity men are wide awake to their opportunities and are burning the midnight gas to keep themselves abreast of the times.

Of the many things which have impressed me are the numerous reports on new ways to use gas and the improvements in the ways of using it. A list of articles manufactured with gas as fuel would, for length, surprise many of our members. House heating is growing year by year, and the fields of cooking and water heating have been developed beyond the dreams of even the most optimistic of ten years ago.

We have many things of which we can be proud. No cleaner cut, finer lot of men ever gathered together than are to be found in Atlantic City this week. They are two-fisted, he-men, ready at any time to fight for themselves, for their Association and their industry.

Enthusiasm built this great country of ours; enthusiasm won the war for us and enthusiasm, such as we are now showing, has put the American Gas Association in the first division of trade organizations and enthusiasm is going to keep it forging ahead, until the time will come when our banner will proudly fly at the head of the procession. Another year lies before us.

Let us keep the pilot light of effort constantly burning before the shrine.

Let us lose, if necessary, all else, but hold forever Enthusiasm, the builder of men, the builder of business, the builder of our association.

Technical Men Meet In Three Sessions

Chemical Carbonization and Distribution Divisions Hold Simultaneous Meetings

On Thursday, combination and parallel meetings were the order of the day. While the Commercial, Industrial and Publicity and Advertising Sections held a combination meeting, the Technical Section for the first time divided its afternoon session into three parts. One part of the meeting was concerned with manufacturing matters, another with distribution and a third with chemical matters.

The Manufacturing Session, which was held on the Steel Pier, was mainly concerned with the report of the Carbonization Committee, as well as with the reports of the Committee on Measurement of Large Volumes of Gas, and of the Committee on Condensing and Scrubbing.

Carbonization Report

The report of the Carbonization Committee, which was presented by the chairman, E. H. Bauer, of Worcester Gas Light Co., of Worcester, Mass., was, as usual, very complete and covered many phases of this important general subject. The report was divided into four sections, viz.: Operators', Low Temperature Carbonization, Complete Gasification of Coal and Builders'. In his introductory remarks the chairman of the committee appealed to the managers and company executives to permit their men to take active part in the doings of the Association. The suggestion was also made in the report that the Technical Section arrange for the formation of a Gas Manufacturing Committee, which would be a large committee divided up into sections, as follows: Coal Gas, Water Gas, Low Temperature Carbonization, Complete Gasification of Coal, and Builders.

A. F. Kunberger, Phila., Pa.

The Operators' Section of the committee report was presented by A. M. Beebe, of Rochester, N. Y., chairman. There were four separate problems on which reports were read, viz.: Test of run-of-mine coal against three-quarter-inch coal for carbonization, the drawing up of a test code for carbonizing plants, record of plant operating results, and operating and labor saving devices.

The report on test of run-of-mine versus three-quarter-inch coal for carbonization was prepared by F. D. Lohr, of the Seaboard By-Product Coke Co., Jersey City, N. J., and A. M. Beebe, of Rochester. The report on the standard carbonizing plant test code, which included a set of detailed report forms and accurate description of their use, was prepared by D. W. Wilson, of the Iroquois Gas Co., Buffalo, N. Y. The report on the record of plant operating results contained data obtained from questionnaires and was prepared by W. D. Stewart, of Fall River, Mass. The report on operating and labor saving devices was prepared by S. B. Sherman, of the Wisconsin Gas and Electric Co., Racine, Wis.

D. A. Flynn

Complete Gasification

The report on complete gasification was a progress report and was prepared by Edward H. Bauer. The report on the low temperature carbonization of coal was prepared by S. W. Parr, of the University of Illinois and, described the latest developments in this field.

The report of the Builders' Section prepared under the direction of F. J. Kennedy, chairman, consisted of seven separate parts, contributed by various manufacturers of carbonizing equipment.

The report of the Committee on Measurement of Large Volumes of Gas was presented by M. E. Benesh, People's Gas Light and Coke Co., Chicago, chairman, and that of the Committee on Condensing and Scrubbing by F. W. Steere, Steere Engineering Co., chairman.

The Distribution Session

The program of the Distribution Session was divided into three parts. The first report was on the standardization of capacities of consumers' meters, which was presented by the chairman, Walton Forstall, of the U. G. I. Co., of Philadelphia. The second report was presented by the same gentleman, as chairman of the Committee on Cast Iron Pipe Standards. The third report

was that of the Distribution Committee, prepared under the direction of the chairman, J. D. von Maur, of the Consumers' Gas Co., of Toronto, Canada.

The latter report was made up of the answers to thirty-nine questions, which were sent to various distribution engineers connected with different companies throughout the country. These questions dealt with various problems in the distribution of gas. The first question was a particularly interesting one and was concerned with househeating from the distribution standpoint. It was stated that the object of this question was to assist the Househeating Committee in arriving at some conclusions as to the conditions under which gas companies should undertake the househeating business. It was stated as one of the conclusions derived from the returned questionnaires that gas companies have gone into this field only to a very limited extent.

Chemical Session

There were similarly three reports read at the meeting of the Chemical Division. The first was the report of the Chemical Committee, whose chairman is Dr. A. R. Powell, of the Chicago By-Product Coke Co. This report was constituted of several parts, purification, use of oxygen in gas, editing the Gas Chemists' Handbook, analysis of light oils and tars, testing of purifying materials, testing of ammonia liquors and materials, testing and valuation of gas oils. In making suggestions for the coming year's work, the chairman said that all the committees still have unsolved problems which it would be well to concentrate on.

The report of the Sub-Committee on Purification was prepared by A. F. Kunberger, of the U. G. I. Contracting Co., of Philadelphia. It contained the answers to a questionnaire which was sent out to various gas companies and which contained several questions of particular interest from the standpoint of the purification of gas.

The final report of the meeting was that of the Committee on Disposal of Waste from Gas Plants, prepared under the direction of R. G. Porter, chairman. Part of the report was a description of a water gas tar filtration system, prepared by R. S. Carter, of the Melden and Melrose Gas Light Co., Malden, Mass. Another part was devoted to an article entitled "Other Waste Emulsions Incidental to Manufactured Gas Production," prepared by G. A. Simmons, of the Philadelphia Suburban Gas and Electric Co., Chester, Pa.

American Gas Journal Staff Entertained At Banquet

Mr. S. G. Krake, owner and publisher of the American Gas Journal, entertained his editorial staff of fifteen at a banquet at the Ritz last night. Mr. Krake thanked the writers on his paper for the work they had done during the convention and told them that the gas men had made many complimentary remarks about the daily issues.

Charles Myers, vice-president, in a few well chosen words, told the staff that they had done much to make his work easier during the coming year.

Ismar Ginsberg, technical editor, delivered a short talk on the enthusiasm displayed during the convention.

Syd told a few funny stories and talks were made by Mr. Koplic, Garrison, Miss Gleason and others.

The affair cemented the friendships made during the week and the dinner closed with cheers for the genial host, Mr. Krake.

Ada Bessie Swann, An Apostle of Home Service

Many Papers Read to Accounting Section

Reports of Diversity of Interest Presented at Last Meeting of Accounting Men

The last meeting of the Accounting Section which was held yesterday afternoon listened to a series of five papers on a diversity of subjects which again showed that the Accounting Section is concerned with many more problems than those connected with mere bookkeeping and figures.

The first report was that of the Committee on Uniform Classification of Accounts, whose Chairman

W. J. Meyers, United Electric Light and Power Co., N. Y.

is W. J. Meyers of the United Electric Light and Power Co. of New York. Progress was reported in this important matter which relates to the adoption of a standard system of classification by the State Public Service Commissions, so that the proper calculations of revenue, etc., can be made.

The second report was that of the Insurance Committee which is headed by J. G. Reese of the Consolidated Gas Electric Light and Power Co. of Baltimore, Md. It was reported that the work of the Committee for the past year was chiefly directed towards public liability insurance, property damage liability insurance, and the adoption of a uniform explosion clause. Consideration was however also given to workmen's compensation, fire insurance and fire prevention. The new uniform clause on explosion was described and it was suggested that by the use of this clause and the new rate of ten cents per every hundred dollars for fire insurance coverage in gas holders where the policy includes the eight per cent co-insurance clause would make it very desirable to insure holders. The Committee suggested that it is in position to advise the gas companies on insurance problems to much better effect than the local broker.

The Printing Matter

The next paper was on "Waste and the Gas Company Printing Bill," by Russell A. Pettengill, Industrial Engineer of Chicago, Ill. This paper is printed in full in another part of the present issue of the *American Gas Journal*. The paper contained a thorough discussion of the subject which is perhaps of more importance than what appears at first sight. Printing is an important item in the expense budget of the average gas company and furthermore the printing problem from the standpoint of the use and preparation of the proper forms, the proper size of rooms and their proper compositions is also a significant matter.

The next item on the program was the report of the Committee on Customers Accounting, whose Chairman was H. F. Frey of the Allentown-Bethlehem Gas Co., Allentown, Pa. This report was mainly concerned with the matter of bookkeeping without books.

The final report of the meeting was that of the Committee on State Representatives, the Chairman of which was A. L. Tossell of the Peoples' Gas Light and Coke Co. of Chicago, Ill.

Exhibits Gas Man's College

L. L. Moore Extends Congratulations

Every one knows L. L. Moore of the U. G. I. Contracting Co., Philadelphia. He is as full of pep as a school boy and he bubbles over with the two best qualities a man can have, good-will and enthusiasm.

"What a wonderful display this is," said L. L. yesterday. "I've walked up and down the Steel Pier about ten times looking at the exhibits and if I can get away from

L. L. Moore, Sales Engineer the U. G. I. Contracting Company

our booth for another half an hour I'm going to see them again. They are first artistic, second, complete and third, instructive. They are at least one hundred per cent better than last year and they far surpass any display of the Association since its inception. This display would do credit to any trade organization in the United States, and few of them could equal it.

"The exhibits are of inestimable value to the gas men. Here we see the newest and the best and we learn what the other fellow is doing. In a few hours a man brings himself up to the minute in the gas

A. P. Post, Commercial Manager American Gas Co., Phila., Pa.

industry. Isn't that a pleasant and easy way to learn?

"I have noticed that all of the Officers, Directors and Committee chairmen of the convention in the exhibits. They did not simply walk through, glancing here and there. They came, they saw and they were conquered. The display made a lasting impression on them and they gathered a lot of information of value to them in the conduct of the affairs of the Association.

"I have always been a firm believer in the value of conventions, but after this one, I don't see how any one can doubt the wonderful benefits we derive from them.

"This has been a glorious week, I've enjoyed shaking hands with old friends and making new ones, and by the way, there's a fellow waiting to see me—goodbye Syd, see you next year."

Gas-Oil Househeating

A New and Most Prominent Development In This Field

One of the latest and most potent developments in the house heating field was discussed by Henry O. Loebell, president of Surface Combustion Co., when interviewed by the American Gas Journal reporter. This is a furnace in which both gas and oil are burnt. The peculiar importance of this innovation lies in the fact that gas is relieved from supplying the peak load, the latter being undertaken by the oil fuel. This plan of house heating, therefore, is particularly attractive to those gas companies that cannot and have not developed house heating business for fear of the excessive peak load during the cold winter days, necessitating excess plant equipment for which there was no possibility of obtaining an adequate summer load.

It is claimed that by this method, house heating business is obtained at a relatively low demand per customer with a relatively high load factor for the heating season. Due to the fact that the peak demand is absorbed by the oil the gas company is placed in the position to take on exactly that portion of the house heating load which it is in the position to supply. From the standpoint of the customer, this system is also particularly advantageous in that it does not upset his house heating economy, and he himself is enabled to heat his house with gas and oil, benefitting through the inherent advantages possessed by this system over anthracite heating, and still not being obliged to spend any more for house heating fuel than when using straight anthracite coal in the furnace.

The base load of the furnace is supplied by gas and the peak load by the oil fuel. A cheap grade of gas oil may be employed, but experiments have shown that water gas tar is well suited for this purpose, and distillates from coal tar can also be employed as the peak fuel.

The apparatus in which the fuels are burnt is supplied with devices for the correct proportionment of the secondary and primary air so that complete combustion takes place. The amount of gas and oil burnt is automatically controlled by thermostats in proportion to the amount of fuel required to keep the rooms at the desired temperature.

The advantages of this system of house heating both to the customer and to the gas company are great and its utility has appealed to the gas men who have had the opportunity of seeing the apparatus work. It presents an opportunity to the gas industry for which it has been waiting for many years, that is, of securing the lucrative and attractive house heating business, which has been going to oil exclusively, when the gas company could not see its way clear to taking it on, without the disadvantages of the peak load which has proven to be so great an obstacle in the development of this field.

Canadian Gas Officers Meet

The officers and members of the executive committee of the Canadian Gas Association held a meeting last evening at which plans for the 1925 meeting of the Association were discussed. One plan proposed was that the meeting be held at Quebec, and that those attending be picked up by boat from Buffalo and other cities on the way and go by boat to Quebec. The other plan discussed was a meeting on board a boat enroute through the St. Lawrence River, stopping at various points of interest, and on up the Saguenay River. The plan finally decided on will be announced later.

John Gribbel, Pres. J. J. Griffin & Co., Phila., Pa.

Customer Ownership and Research

Gas Men Listen to Variety of Papers at Final General Session

The potentialities of the gas industry were dealt with in the third general session of the convention of the American Gas Association on Thursday in the big auditorium at the end of the Atlantic City Steel Pier. Final reports were placed before the assembled gas men and they were given some specific ideas in the developmental phases of various branches of the industry.

"The Value of Industrial Research to Industry" was the title of talk given by Dr. E. R. Weidlein, director of the Mellon Institute of Pittsburgh. His address was the contribution of the Technical Section to the general program and he was introduced by Technical Section Chairman L. J. Willien of Charles H. Tenny & Co., of Boston, Mass.

The Value of Research

Dr. Weidlein reviewed in a general way what the research laboratory had been able to contribute to industry in general and then dealt more particularly with the application of industrial research to the gas field. How the submission of various problems in the gas industry might be submitted to such research laboratories as his own and how the efforts of these generally trained technologists might lead to notable achievements of economy and conservation, in manufacture, transmission and consumption of gas, he suggested to the assembly. Nor would it be necessarily gas work specifically that would lead to these savings. Frequently, discoveries of startling importance come quite by accident, and an effort to lay the case of gas before the laboratories of the country would lead to a readier recognition of these discoveries when they were made and their possible application to gas realized.

E. R. Weidlein, Director, Mellon Institute, Pittsburgh, Pa.

Other speakers were F. W. Fisher of the Rochester Gas & Electric Corporation, Rochester, N. Y.; Charles A. Munroe of the Laclede Gas Light Company of St. Louis, Mo.; Dr. Paul W. Ivey, professor of marketing at the University of Nebraska, and Floyd Parsons of New York City.

Customer Ownership

In his report as chairman of the Customer Ownership Committee, Mr. Munroe reviewed the growth of customer-owned securities during the past year, told of the various efforts which were being made to increase this class of security holders and recommended some efforts in this direction to the utility men present at the meeting. Nothing so welded the interest of utility and consumer as the feeling that, in owning some share in the utility, the customer felt himself "part of the works."

F. W. Fisher, Rochester, N. Y.

This feeling, it was pointed out, made for better understanding of the utility's efforts to meet public demands and made a friend of the people they were trying to serve instead of, as in the past, an enemy. Customer ownership, it was pointed out in the report, was the strongest sort of insurance for public good will and future safety of the organization from the clutches of political demagogues that had yet been thought of, and though this was of secondary importance, it provided new money with which to go on with developments where other funds were not available.

Accident Prevention

The work of the Accident Prevention Committee was reported on by Chairman F. W. Fisher. He told of the committee's efforts during the past year, for a large part of an educational nature, offered the paper as a progressive report and reviewed plans for the future, telling what might be done in the industry to reduce casualties to a minimum. The gas industry was of necessity a hazardous occupation, it was pointed out, but there were precautions which employees and users of gas might be taught which would reduce deaths and accidents to minimum.

By far, the largest number of deaths in the industry had come from suffocation. To illustrate how this figure might be notably reduced a demonstration was given in

the Prone Pressure Method of Resuscitation by A. J. Van Brunt, Director of Safety Education of the Public Service Electric & Gas Company of Newark, N. J., wherein it was shown that persons who had apparently died from suffocation by gas might be revived if the proper means were employed.

A visionary picture of the future wherein radio took its place as the greatest public utility and the airship as the greatest means of transportation, with trips across the North Pole an every day occurrence and gas the almost universal fuel was given in a talk by Floyd Parsons.

Marketing Utility Service

The closing address of the session was given by Dr. Ivey, one of the country's foremost merchandising experts, who spoke of "Marketing Utility Service." Here again the desirability of educating the public was stressed and it was pointed out that the characters of gas as fuel and light were such that education would make the product sell itself.

The committee on President Klumpp's address, made at the opening general session on Tuesday, presented its report and urged on the convention that it take to heart and mind the valuable suggestions made at that time with a view to attaining notable success in putting the gas industry in the forefront of American utilities and industries.

The progress reports of the various general committees of the A. G. A. were presented in a group by Secretary-Manager Forward and gave clear indication of the commendable efforts that these bodies had made for the industry's good throughout the past year with every indication for their continuance in 1925.

Making the Public Friends and Partners

Customer Ownership and Public Relations Stressed at Symposium

From a feeling of "the public be damned" to one of keenest regard of the rights of the public has been the swing of the pendulum as regards public utilities in the past decade, Charles M. Cohn, vice-president of the Consolidated Gas-Electric Light & Power Company, of Baltimore, told the many hundreds gathered at the Public Relations Symposium of the American Gas Association convention at Haddon Hall on Wednesday evening.

Mr. Cohn's was one of three special talks that featured the gathering, the other two being given by the Hon. A. G. Patterson, president of the Public Service Commission of Alabama, Montgomery, Ala., and Martin J. Insull, vice-president of the Middle West Utilities Company, of Chicago.

A Program of Singing

Interspersed between the talks the Madrigal Singers, of Philadelphia, gave a varied and enthusiastically applauded program of singing. The awarding of the A. G. A. Meritorias Service Medal, the McCarter medals and the Beal medals also took place.

In his talk, Mr. Cohn told how his organization had gone about making friends of the public of the City of Baltimore.

"When we decided to organize a complaint department, we could think of no better example to be copied than of the great New York department stores," he said. "After a thorough study of their methods, we proceeded to the organization of our own complaint department. This department of ours, which is not dependent on any other part of the organization for its authority, represents the management and reports directly to the management. Equally is it the agent of the customer, representing him in his complaint to the company, ferreting out the particular place at which the fault lies, and presenting his case for him. This is quite necessary because there are many customers who are unable to present a complaint in a way that can be readily understood by the rank and file of the organization.

"This department of ours," Mr. Cohn continued in his talk on "Public Relations in Baltimore," "can go into any other department to look into the complaints

Charles M. Cohn, V.-P. Con. Gas, Elec. Lgt. & Pwr. Co., Baltimore, Md.

of customers and find out where the fault lies."

Plans for Promoting Public Relations

Other ways in which favorable public relations could be kept up were suggested. The public relations of the company with individuals who are seeking employment, or who are selling goods to the company in the Purchasing Department, are great opportunities to build up the locality's good-will, the Baltimore executive showed. He noted also the great fleet of motor vehicles which a public utility has in the streets of a city. These, too, are contacts with the public, and care

in avoiding accident and observing strictly the traffic regulations of the city are beneficial in building good-will.

Customer Ownership

"Customer Ownership" was the title of Mr. Insull's paper, and he dealt with the growth of customer ownership, what it had thus far accomplished, the lines along which it may be extended and the methods of realizing its fullest benefits.

"Customer ownership has been a source of strength for the utilities," he said, "in that the pyramiding numbers of owners has increased the company's protection against the dangers of public misinformation. There have been countless instances where the butcher, the baker and the candlestick maker have, to protect their 7 per cent. return on a hundred dollar investment, argued publicly against unfair demands upon utilities. The activities of customer shareholders in territories where state or municipal ownership and operation of utilities are proposed has had cumulative effects of untold value in two ways: They have tended to dissipate the worth of municipal ownership as a political argument for aspiring candidates for office, and they have reassured senior and junior securities holders of the affected companies living in distant territories, both of which effects have contributed toward stabilizing the market for public utility securities.

"Insofar as customer owner affects the utility employees, an outstanding accomplishment has been the vastly improved morale of organizations using the plan. Employees have been encouraged to save money and become owners of the business for which they work, which has naturally increased their effectiveness, their interest in, and their knowledge of the industry. Thus the plan is a vehicle which has carried the average employee into a field of knowledge of the economics of the business.

The Financial Aspect

"Utilities should realize that customer ownership taps a potential field which will supply them with a considerable part of the money for their growth. The field must be dealt with intelligently, as it is a great reservoir of wealth which should endure. Protection of the integrity of the industry is essential to the full realization of customer ownership benefits, and that integrity must be fought for diligently.

"The public confidence in the utilities must never be destroyed. In its protection, customer ownership offers the utilities practically unlimited aid, and the industry will reach its greatest height only when the plan is employed to its ultimate extent."

Lesson Learned by the Commission

Mr. Patterson, in his talk, assured the audience of gas men that the Public Service Commissions and other similar bodies throughout the country had learned something in the past few years which he felt the gas men would be glad to know. This was that the Public Service Commission was not only the public's representative in argument with the utility, but that it was the utility's representative in discussion with the public, that it was trying to bring the two factions closer together and do away with all argument. This, he said, would take more time, but already much progress had been made.

Henry L. Doherty of New York, president of the company bearing his name, was chairman of the symposium, which, taking place in the Vernon Room of Haddon Hall was followed by several hours of dancing.

Joint Meeting

Commercial, Publicity and Advertising, and Industrial Gas Sections Mingle

Three sections of the Association met in the Convention Hall, Ocean End of the Steel Pier on Thursday afternoon and told each other things about themselves and their problems. J. E. Davis, Chicago, Chairman Commercial Section, opened the meeting and introduced Thomas F. Kennedy, Manager New Business Department, Henry L. Doherty & Co., who read a paper "Compensation and Its Incentive to Greater Sales effort.

The second paper was "Salesmanship and Advertising in Developing Present and New Markets." This paper was presented by C. K. Woodbridge, President Dictaphone Sales Corp.

Next on the program was "Advertising and Its Relation to Sales Stimulation," by Frank L. Blanchard, Director Public Relations Department Henry L. Doherty & Co.

The last paper was "The Industrial Gas Business," by F. F. Cauley, Manager, Industrial Department, Peoples' Gas Light & Coke Co., Chicago, Ill.

All of these papers showed that much work had been done in their preparation and the field thoroughly covered.

The Compensation Problem

Mr. Kennedy, speaking on Compensation, said in part:

"Mark Twain one time remarked, 'A great deal has been said about the weather, but nothing has been done about it.' The subject assigned me has been discussed for many years, and nearly every method of compensating salesmen has been tried, or is being tried, without a universal agreement by the Gas Fraternity upon a single outstanding plan of compensation that will most expeditiously promote the increased sales of our primary product—*gas*. It is my purpose in this paper to present some principles regarding compensation of sales departments which appear as essential incentives for

making the gas business a greater success."

"The following major lines of endeavor should be followed by the sales department if the gas company is to get full value of that organization:

"1. To promote the sale of new and additional appliances.

"2. Secure new customers.

"3. The retention and increasing the gas revenues of present customers through.

a. Placing all appliances on customers' premises in good order.

b. By taking up and following to successful completion customer's complaints on faulty service, appliances, high bills, etc.

"4. The analyzing of the minimum bill customers for reasons for not using and correcting cause if possible.

"5. To carry to the customer the company policies, correct misunderstandings, and earn the good will and favorable publicity on the part of every customer and the public toward the company.

"6. To sell coke and securities and all other products the company has to sell.

"Goods can be manufactured on a formula; but it takes a man to sell. He who sells is a success, others maybe. The man with a secret process of manufacture always imparts his secret sooner or later; but the salesman does not impart his secret, because he cannot. It is not transferable; it is a matter of personality.

"If gas companies have salesmen who represent the company in all its branches; who teach the patrons the things you want them to know, who sell the customers appliances; who follows through to successful completion complaints on service, appliances, high bills, etc., and is the company as far as the customers know; the man is not only essential, but necessarily a man who earns a good salary; and unless he gets it your company loses. Sell your service and your company to your patrons, and do so by a well paid, well trained, well managed sales organization."

Advertising Matters

Mr. Frank LeRoy Blanchard laid down certain fundamental rules regarding advertising and gave his hearers advice as to both methods of advertising and the mediums which bring best results. A few of his most striking paragraphs were:

"Advertising is a sale stimulant, reaching, at low cost the majority of the intelligent inhabitants of the community in which it works. Like all other forces, you must know how to control and direct it, if you would secure the best results.

"Gas companies must advertise to develop the volume of business to which they are entitled by virtue of their position in the community. None of them should be so blind to its own interest as to ignore the aid advertising will bring.

C. K. Woodbridge, Pres., Distaphone Sales Corp., New York

"It is self evident that the right kind of copy to use is the kind that brings the largest results. Your advertising must be attractive and interesting. In selling gas service appliances we must appeal to people's love of comfort, their pride and their desire to reduce household druggery.

"Avoid the use of words not employed in daily conversation or that are not familiar to the average reader. Your advertising should be simple, direct, forceful and inspire confidence.

"When should a gas company advertise? The answer is "continually." By that I do not mean every day in the week. Two or three times a week is sufficient. If you advertise that often your public will think you advertise every day.

"I sincerely trust I have given you at least a few suggestions that will help you increase the volume of your sales in 1925.

Papers Worth While

Edward H. Bauer Enjoying Convention

Some men come to conventions to have a good time, some combine work and play and some of them put in all of their time attending meetings and gathering information for future use. Edward H. Bauer, Worcester Gas Light Co., Worcester, Mass., is one of the latter.

"This is, by far, the best convention I have yet attended," said Mr. Bauer, when seen at the meeting of the Industrial Gas Section, Tuesday. "The exhibits are splendid. I have learned much from them. The meetings of the various sections have been well planned, the programs interesting and the papers excellent. I am sorry I cannot cut myself in several parts, so that I can attend two or three meetings every afternoon. I want to hear three papers today, all in different sections, but was forced to select the one I thought meant most to me.

"Mr. Munroe's paper on House Heating, read at the General Session this morning, was a great piece of work. It solved some of my problems for me, and I am sure the other gas men present learned things about this important phase of the business.

"Didn't we have a good time at the dance on the Steel Pier? The floor was fine, and music excellent and the ladies ——"

(Lack of space prevents us from printing Mr. Bauer's tribute to the ladies in full.)

Large Delegation of Brooklyn Gas Men Attended Convention

One of the most active delegations attending the American Gas Association at Atlantic City, N. J., was that of the Brooklyn Union Gas Company. This delegation, almost one hundred strong, took part in every session of the convention. They were everywhere and added much to the general discussion of papers.

The advance guard of the delegation arrived Saturday, October 11, in the early afternoon. By Monday they had all arrived. The delegation was supplied with blue badges with the Brooklyn Union Gas Company printed upon it in gold. By Monday evening these individual badges were seen all over the Boardwalk.

Early Monday morning the company headquarters were opened on the balcony floor. This was presided over by Margaret Conklin, one of the company's attractive employes. She gave out a booklet entitled "Brooklyn Yesterday, Today and Tomorrow." This booklet was given to all at the convention with the compliments of the company.

Monday evening there was a joyous time at the company banquet. The committee in charge of this affair gave one of the prettiest and entertaining affairs of the week.

At the company booth there was maintained a full directory of all the men of the company at the convention. In this way the members of the Brooklyn delegation were kept in close touch with their friends throughout the industry. A group picture of the folks was taken with several movie motives.

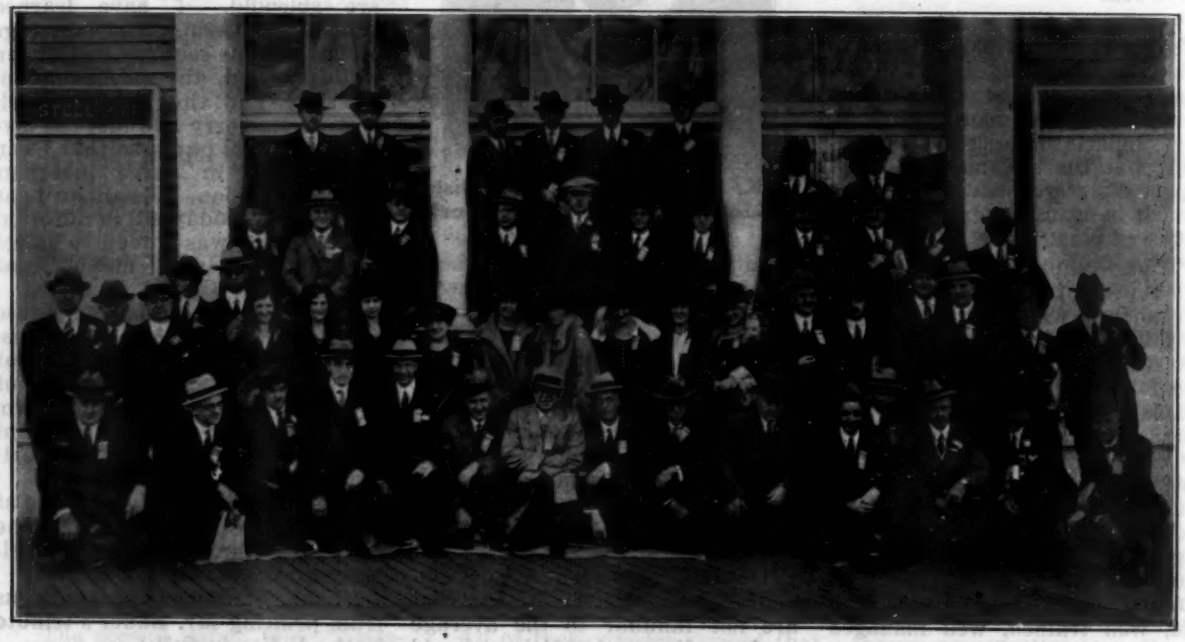
There were twenty-two ladies in the party. They also took an active part in the social activities of the week. Among those were Mrs. Clifford E. Paige, Mrs. Charles Young, Mrs. George M. Kirchmer, Mrs. Edward Shields, Mrs. Alice Waldron, Mrs. J. M. Cremer, Mrs. C. C. Aspinwall, Mrs. C. G. Atwood, Mrs. E. J. Bartel, Mrs. John J. Blanchfield, Mrs. George R. Bradley, Mrs. Edward Cattell, Mrs. J. Percy Conklin, Mrs. L. S. Stiles, Mrs. Walter Kunze, Mrs. Theodore B. J. Merkt, Mrs. F. B. Parke, Mrs. William Percival, Mrs. Edward Uhlig and others.

The delegation was headed by Mr. Clifford E. Paige, one of the Vice-Presidents. Mr. Paige did much to inspire the delegation by his activity in every place of the convention. During the week Mr. F. A. Wogan, Mr. Thomas P. Payne, Mr. H. E. McGowan and other officers of the company attended.

The men profited by their attendance and took away new ideas. Incidentally they inspired new thoughts among some of the other delegations.

Doherty Men Hold Dinner

Last night the various members of the organization of Henry L. Doherty & Co. and associated enterprises, who attended this convention in large numbers, held a dinner at the Ritz-Carlton Hotel. The Doherty men were present at the convention in full force and took a prominent part in all the activities held throughout the week.



Delegation from The Brooklyn Union Gas Co., Brooklyn, N. Y., at the Convention.

Home Service

Chicag'o Excellent Method of Increasing Gas Consumption

By Syd

Paul D. Warren of the Peoples' Gas, Light and Coke Co., Chicago, Ill., has a hobby. It isn't bridge, mah jongg or golf, wine, women or song, it is Home Service with a capital H and a capital S.

Most men, who had worked hard all day getting an exhibit in shape and in addition, had answered several thousand questions, both foolish and otherwise, would have been too tired in body and too fagged mentally to do anything but go to bed. I found Mr. Warren in the Accounting Section booth at 10:30 Saturday evening and asked him to tell me about Home Service. His eye brightened, his manner became alert and no fond parent ever raved about a child more enthusiastically than Mr. Warren did about his hobby. He talked pretty fast, but I think I got most of it.

"Two and one-half years ago T. V. Purcell, our vice-president, as a result of an investigation, found that there was a decrease in the amount of gas being used through small meters. An analysis showed that people were eating in restaurants, buying cooked foods from delicatessen shops and doing less cooking at home. This condition of affairs, of course, was responsible for the decrease in the sale of gas.

"Mr. Purcell realized that an educational campaign was the only solution to the problem. Thus was born the Home Service idea. We engaged the best woman we could find to act as our department head and we gave her an excellent staff of assistants. She needed a place to work, so we built an auditorium seating five hundred people and we invited the women of Chicago to come in every afternoon at two o'clock and listen to talks about home life, cooking and other things every woman should know. Our afternoon meetings were an instantaneous success and we played to standing room only at every lecture. Our talks and demonstrations were about simple, wholesome food. We told our audiences how much more appetizing home cooked food was, how much less it cost and its other good points. We cooked for them and let them sample the result. Then we hooked up with K. Y. W. one of Chicago's most powerful radio stations and at 11:35 each morning we broadcasted about home cooking. These talks lasted twenty minutes and we received thousands of letters complimenting us on our initiative and asking for the budgets and cost systems we were distributing free of charge. These systems were gotten up for the small housekeeper and were elastic enough to cover expenditures in almost any home, whether its income was large or small.

J. D. Shattuck, Gen. Mgr., Phila. Surburban Gas Co., Chester, Pa.

"Then we built a motor kitchen to go out on the highways and byways. On a beautifully built truck we mounted a model kitchen and we sent it to play grounds, parks and women's clubs. The results were all we expected. Every woman in Chicago knows how easy and how cheap it is to cook with gas and how much better hubby will like the food.

"In addition to the tangible results obtained we found that our Home Service work was gaining us the good will of Chicago's population and that we were making new friends day by day.

"Home Service sold gas to the consumer, it sold us on the idea and if this story sells the idea to other gas companies and they use it to good advantage, as we have done, then I think I've done my little bit to help the industry. Thanks old man, Good-night."

Attendance Record Broken

The attendance record of all former years was broken at the Sixth Annual Convention of the American Gas Association. Last year the total attendance was 3,399. At about two o'clock Wednesday afternoon, this attendance mark was broken and by ten o'clock on Thursday morning the total registration figures had reached 3,500. It is estimated that the total attendance will be in the neighborhood of 3,700.

The American Gas Association and the American Gas Industry are to be congratulated on this showing. It clearly indicates that the Annual Convention is an event to which the entire gas fraternity looks forward each year. And each year the interest shown is greater than the previous one. This year's attendance is indeed a high one, but not so high that next year's attendance cannot surpass it. The next year's convention, which will be the seventh in order since the founding of the American Gas Association, will also be held in Atlantic City. It will not be easy to beat this year's record, but we are sure it can and will be done. The gas industry is now fully awake and no better evidence can be found that this record registration. Next year, the figures should be even higher. It is up to the gas industry to make it so.

Educational Booklets On Gas, First Step In Educational Program

Progress Report of Committee on Education of Gas Company Employees

By B. J. Mullaney

When your Committee on Education of Gas Company Employees was appointed, pursuant to action by the Executive Board, it was confronted with the task of recommending to the Association both the character of employee education which might best serve the industry, and ways and means of imparting that education. Since there has been no general plan of educational activity fostered by the Association, it was felt that the first step to be taken by the Committee should be to find out what, if anything, had been done by individual gas companies in this educational field, and with what results. Accordingly a letter embodying the following questions was sent to 100 representative gas companies:

Questions Asked Gas Companies

To what employees or classes of employees do you consider it most desirable to give further knowledge of the business they are employed in, and what kind of knowledge or information do you consider the most desirable to be imparted to them?

What educational work are you conducting or have you conducted among your employees?

With what results?

What means do you consider most effective; that is: class work, lectures, class work combined with home study, correspondence, etc?

The Answers

A careful reading of fifty-four replies to the Committee's circular letter disclosed some interesting facts. Only a few companies (7) had regular, systematic educational programs. Twenty-nine of the 54 reported occasional instruction of various kinds at irregular periods. Sixteen of the 54 companies had no educational activities.

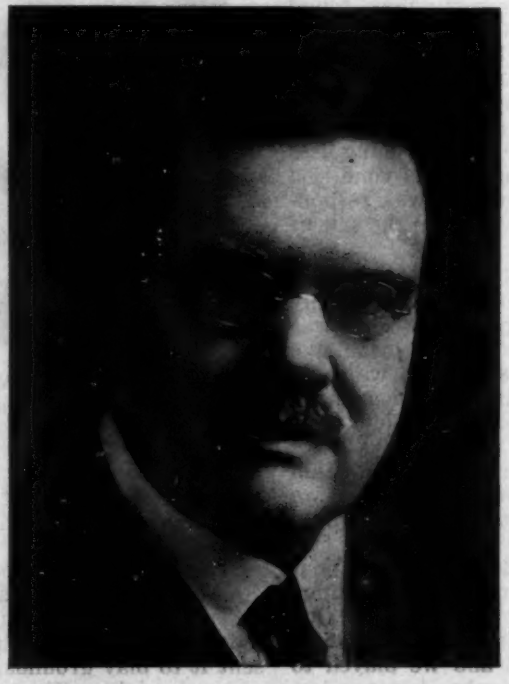
The opinion seemed to be general (and this included opinions of companies having no educational activities) that all employees having direct contact with customers, if no others, should be given some form of training and education calculated to broaden their views of the gas industry and better fit them to interpret their respective companies and the industry to their customers and the public.

Nearly all companies heard from were interested in the education of employees, but many seemed unable to determine just what methods were best adapted for their use. The following quotation from one reply expresses the sentiment of a great many companies: "We have used various courses successfully, but are still grouping around for satisfactory educational methods." This company had used several educational courses and held group meetings, but was not enthusiastic about any of the plans tried.

Some companies favored inauguration, by the Association, of correspondence courses similar to those formerly conducted by the Trustees Gas Educational Fund and by the National Commercial Gas Association; there were also references to the correspondence courses of the National Electric Light Association. Thirty-four of the 54 replies variously favored education by class work, by lectures, by home study, by group meetings and by departmental meetings.

No Definite Program Available

The 54 replies, as a whole, seemed to indicate that the gas industry



B. J. Mullaney, Vice-Pres. Peoples Gas, Light and Coke Co., Chicago, Ill.

was waiting for the American Gas Association to formulate an educational program and promote execution of it. Therefore, pending development of a complete program, the Committee has felt that its first work should be to make available to gas companies literature that might be useful in any kind of educational program—whether by correspondence, class work, lecture or otherwise.

Sometime previous to the appointment of the Committee on Education of Gas Company Employees, it was planned to publish a series of four booklets, covering the manufacture of gas, the distribution of gas, the utilization of gas and the fourth one covering the subject of gas company service. Upon the formation of this Committee, it was given the task of completing the arrangements for getting those booklets written and published.

Series of Educational Booklets

The Committee welcomed the assignment as it felt that such a series of booklets would place in the hands of gas companies material for use in the preparation of lecture courses to employees, material for home study, or material for use in group and departmental meetings. In other words, this series of booklets would supply material for use in practically all educational activities which gas companies have variously employed. Although recognizing that publication of such booklets would be but a step toward a comprehensive educational program, the Committee felt that it was the logical first step, and decided to concentrate in getting out the series as quickly as possible.

At about this time it was decided to add a fifth booklet to the series as a sort of introduction to the other four, covering a brief history of the industry, its origin, its present condition and its future possibilities. In going over material available for this, it was the unanimous opinion of the Committee that it could do no better than adopt, with some revision and additions, the booklet published by the Illinois Committee on Public Utility Information entitled, "History and Development of the Gas Industry." The booklet has been accordingly revised and adopted to national use. It has also been reviewed by some of the leaders of the industry and is now offered to members of the Association at cost. The booklet is entitled "The Story of Gas" and has the unqualified endorsement of the leading men in the industry. It is a booklet that will be useful not only for distribution to employees but the public as well, and your Committee urges a wide distribution of it.

The other four booklets in the series will be published under the following titles: "The Story of Gas Manufacture," "The Story of Gas Distribution," "The Story of Gas Utilization," and "The Story of Gas Service." Arrangements were made with Mr. Alfred E. Forstall to write the booklets on manufacture and distribution. There is no man in the industry with the educational experience better qualified to write these two booklets. The manuscript for the booklet on gas manufacture is now practically ready for the printer and will be available in a short time. Mr. Forstall promises to have the manuscript for the booklet covering distribution ready soon. The Commercial and Industrial Gas Sections are cooperating in the writing of the Booklet on Utilization and the Publicity and Advertising Section reports progress on the one covering Service.

J. H. Gumz, Ind. Gas Eng., Pacific Coast Gas & Electric Co.

Your Committee, while it wishes it might have been able to report greater progress at this time, sincerely believes that it has accomplished something in producing what may be said to be the first tangible item in a comprehensive educational program.

A Course for Gas Men

Prof. Morgan Describes the Gas Curriculum at Columbia University

The course of lectures and laboratory work on Production, Distribution and Utilization of Manufactured Gas at Columbia University in the City of New York will be given again during the Summer Session of 1925 from July 6 to August 14.

This course was started in 1922 by Prof. J. J. Morgan of the Chemical Engineering Department of Columbia University in cooperation with the American Gas Association Committee on Cooperation with Educational Institutions. It consists of 30 lectures, 5 inspection trips and 72 hours laboratory work. The manufacture, distribution and utilization of gas are taken up from the chemical engineering stand-point. The instruction is of graduate grade and designed especially for the benefit of men who hold engineering degrees and have had some experience in the gas industry. In the lectures Prof. Morgan, who in addition to a wide teaching experience, has had practical contact with the gas business, is assisted by such eminent gas men as W. Hutton Blauvelt, Jos. A. Doyle, Wm. E. Ennis, Alfred E. Forstall, W. H. Fulweiler, G. T. Macbeth, N. H. Memory, N. T. Sellman, C. C. Simpson, Jr., J. Hawley Taussig, E. C. Uhlig and F. C. Weber.

The laboratory work is arranged to fit the special need of the men taking the course. A properly qualified man might even arrange to undertake a small piece of gas research during this period.

Best Convention Ever

So Says G. W. Allen, of Toronto, Canada

Bigger, greater, grander than ever before. A wonderful convention and splendid exhibition. A power for good. That is all I can say just now in connection with this week's meeting of the American Gas Association at Atlantic City.

To me it has been a revelation and an education. It is a practical demonstration of what cooperation can do for the good of an industry when there is a united willingness on the part of all concerned to do their share.

If any gas man goes away from the convention feeling that he has not obtained full benefits for the time and expense involved in attending, then all I can say is that something must be wrong with his make-up.

To the gas man on the lookout for ideas, practical means of getting more business, of putting on better demonstrations, and new ways of bringing the industry before the public, it has been a remarkable success. Without doubt, many gas companies will, from this day forward, reap untold benefits from the application of the knowledge obtained at this convention.

No phase of the industry has apparently been left out. Every branch has had every attention paid to its interests and all who contributed to the success of the convention, whether the officers or men on the Entertainment, Accounting, Commercial, Industrial, Manufacturers, Publicity, Technical or Exhibition Committees, or working in their behalf, are to be heartily congratulated on the result of their endeavors.

Some exhibitors may doubt the value of their endeavors to display their appliances and equipment to the visiting gas men, but to all such I would say, have patience. Business worthwhile is worth going after and sooner or later results will show where at the beginning there were doubts and fears as to the value of such demonstrations.

Again I say, it has been a wonderful convention and splendid exhibition.

Gas Irons Use Much Gas in Course of a Year

"A gas iron is a small thing when compared with other appliances and equipment, but the number now in use in the United States consume a lot of gas each year," said J. F. Bloom, of the General Specialty Co., of New York.

"Our company has manufactured and sold over two and one-half million irons. Let's figure what that means to the gas companies. A gas iron burns about 4 cu. ft. of gas per hour. The average family of five persons uses an iron ten hours per week, your old-fashioned multiplication table therefore helps you to reach the conclusion that those two and one-half million irons burn five billion, two hundred million cu. ft. of gas per year, for which the gas companies, at an average rate of 75c a thousand cu. ft. receive $375,000. Not a bad yearly customer for such a small thing as an iron, is it?

"I don't think the gas companies realize that a solicitor can see many housekeepers in a day and make many sales with a small article and that after the wedge has been driven and one gas appliance installed, it is easier to sell one of another type. Our company, of course, does its own soliciting and is therefore getting results and I am simply giving this as a tip, to be used or not used, as commercial men see fit.

"The gas iron of today is a very convenient thing to have. It heats quickly, is uniform in its quality of work and irons more surface in a shorter space of time than any other iron made. We have learned to make an iron which heats the bottom surface only, instead of the sides; we shield the face of the user from the heat, and by pointing both ends, make every stroke count. The gas iron of 1924 is a thing of beauty and a joy forever! What more could any man say?"

William J. Clark, Vice-Pres., Westchester Lighting Co., Mt. Vernon, N. Y.

F. R. Bain, Pres. So. Counties Gas Co., Los Angeles.

The Work of Two Important Associations of New England Designed by J J. Quinn

As regards the work of the Industrial Gas Association, of New England, which is an outgrowth of the Industrial Gas Class conducted for the past three years at the Massachusetts Institute of Technology, this association has mainly brought to the attention of the industry in this section the value and extent of the application of gas to industrial processes. It has, I think, done this quite successfully, for both the executive and the individual personnel of the various companies located in this section have supported the educational work in a most thorough manner. The increase in this class of business has been decidedly noticeable with many companies.

The recent exhibit of gas, as applied to the steel industry at Commonwealth Pier, Boston, brought practical publicity that has never before been received. The formation of the industrial men in a unified local organization has done much to make possible the favorable reception of this and similar projects.

Concerning the work of the Gas Sales Association of New England, I may say that we intend to devote our energies this coming year even more intensively to the development of greater gas sales brought about through more favorable publicity, as well as more intensive individual work.

The steady growth of this organization and its great popularity has undoubtedly been earned through the opportunity offered at regular intervals for a practical discussion of the problems that confront all gas companies in their merchandising of gas and appliances.

During the past year this association brought to the attention of the industry in this section the need for and the possibility of conducting a real gas publicity campaign. Funds for a preliminary survey and plan of action are already in hand so that this most important contemplated undertaking may be fully considered by the New England companies within the immediate future.

If a practical method of conducting such a campaign can be decided upon, it should do much toward securing the favorable consideration of the public, that the service we have to offer so justly deserves.

The Servant Question

One Answer Is Heat Homes With Gas

"I can't begin to tell you how much I have enjoyed this convention and how much I have learned from it," said H. G. Franklin, of the Franklin Gas Burner Manufacturing Co., Cincinnati, Ohio. "I have been much impressed by the exhibits. They are pleasing to the eye and they are schools in which we gas men can learn much regarding our own business.

"House heating is my game, so, of course, that subject is nearest my heart, in fact, I'm afraid I think and talk house heating to the exclusion of almost everything else.

"Ours is no easy road to wealth. We have to fight, and fight hard for all the business we get. Coal, oil and electricity have their adherents and supporters, so we must, of necessity, do a lot of work before we wean them away from their old way of heating the home.

"I think the consumer ot today is willing to pay for the cleanliness, the comfort and the reliability of gas house heating. The servant question, or rather the lack of servants, is always before us and about the best answer I know is: 'Heat your home with gas and hold your servants. No dust, no smoke, no ashes to carry out, less work for the servants and there you are.'

"I firmly believe that 75 per cent. of the coal users will eventually go to gas. This means that the gas companies should begin to make preparations now to take care of this business. The fame of 'gas house heating' is spreading, every user is one more booster and I think next year will find many more thousands of homes equipped with furnaces burning gas."

The Important Organization of Gas Men in New England

J. L. Tudbury Tells About the New England Association of Gas Engineers

The plan under which the New England Association of Gas Engineers operates is perhaps a little

F. H. Knapp, Pres. Pittsburgh Water Heater Co., Pittsburgh, Pa.

different from that of many of the Associations, in that but one meeting is held each year. There is but little activity between meetings, so that it becomes necessary that the annual meeting be made a large one, with features to attract all sides of the industry in New England. The program must be varied and far reaching. The results are well known, for the New England Association has a wide reputation for successful conventions.

There are in New England two other associations, each covering a separate field, but which tie into the work of the New England Association of Gas Engineers. These are: The Guild of Gas Engineers, and the Gas Sales Association. These Associations meet seven or eight times per year, and frequently discussions of subjects initiated in the New England Association are continued in these Associations.

R. R. Young, Newark, N. J.
"Riding his hobby."

The 1925 convention will be held in Providence at the Hotel Biltmore, February 18-19, 1925. A large meeting is anticipated and good entertainment features assured. The program is in process of construction now, and already one of the New York leaders of the industry has agreed to make the opening address. As usual, the program will embrace: Engineering, Commercial, Advertising, and Industrial Papers.

The officers for the current year are:

President — C. R. Prichard, Lowell, Mass.

Vice-Presidents—H. N. Cheney, Boston, Mass.; F. C. Freeman, Providence, R. I.

Secretary - Treasurer — J. L. Tudbury, Salem, Mass.

Final Registration of A. G. A. Members

B

Bailey, John H.; Brooklyn, N. Y.; Chelsea
Ballard, Geo. L.; Staten Island, N. Y.
Barnett, James H.; New York City; Bothwell
Barry, Walter D.; Camden, N. J.
Berry, E. G.; Toms River, N. J.
Bimson, John Jr.; Paterson, N. J.; Strand
Bliss E. M.; Passaic, N. J.; Ambassador
Boyer, E. G.; Norristown, Pa.; Traymore
Bradfield, G. K. Jr.; Hackensack, N. J.; Ambassador
Bump, Milian R.; New York City; Traymore

C

Clisham, O. C.; Phila., Pa.; Traymore

D

DeCamp S. B.; Paterson, N. J.; Haddon Hall
Denton, Chas. C.; Elizabeth, N. J.; Strand
Davis, J. D.; Pittsburgh, Pa.; St. Charles
Donahue, E. J.; Jersey City, N. J.; Breakers

F

Farmer, Paris; Atlantic Highlands, N. J.

G

Gadsden, P. H.; Phila., Pa.; Ambassador
Galt, J. H.; Trenton, N. J.; Chalfonte
Graham, Malcolm, M.; New York City; Traymore

H

Haug, J. S.; Phila., Pa.; Traymore
Hodgson, Harry E.; Phila., Pa.
Hunter, Chas. W.; Waltham, Mass

J

Jenckes, G. K.; West New Brighton, N. Y.; Shelburne

K

Killgore, J. N.; Newark, N. J.; Brighton

L

LeClair, C.; Peekskill, N. Y.; Strand
Lightfoot, J. C. Jr.; Phila., Pa.; St. Charles
Long, Robert; Camden, N. J.

M

McDonald, L.; Glen Ridge, N. J.; Haddon Hall
McCabe, W. S.; Wilmington, Del.; St. Charles
Maxon, H. R.; Muncie, Ind.
Morris, W. A.; Brooklyn, N. Y.; Traymore
Moorhouse, L. B.; Jersey City, N. J.; Maison
Minard, E. D.; Hackensack, N. J.; States Villa
Moore, P. S.; West New Brighton; Shelburne

O

Oeckler, Wm. C.; New York City; Bothwell
O'Kolski, Julius; New York City; Bothwell

P

Plantinga, P.; Cleveland, O.; Traymore
Perry, L. N.; Coney Island, N. Y.; Chelsea
Potter, T. J.; New York City.

R

Reitemeyer, A. F.; Perth Amboy, N. J.; Strand
Richards, J. V.; Jersey City, N. J.; Strand
Rodgers, S. P.; Baltimore, Md.; Traymore
Roemmelle, H. C.; Camden, N. J.; Strand
Root, W. A.; New York City; Chalfonte

S

Scheller, J. A.; Newark, N. J.; Ambassador
Small, N C. East Orange, N. J.; Breakers
Stang, Geo. H.; Coney Island, N. Y.; Chalfonte

T

Tenney, A. B.; Boston, Mass.
Turner, A. E.; New York City; St. Charles

W

Waddington, C. W.; Brooklyn, N. Y.; St. Charles
Weber, Wm. F.; New York City; Ambassador
White, M. J.; West Hoboken, N. J.; Ambassador
Wittner, M.; New York City; Traymore

American Gas Journal

SIXTY-SIXTH YEAR

Published Weekly by American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.

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S. G. KRAKE, President-Treasurer CHAS. S. MYERS, Vice-President A. M. GLEASON, Secretary

ISMAR GINSBERG, Technical Editor

Editorial Offices: Atlantic City, Chalfonte Hotel; Booth Telephone, Steel Pier Marine 5744

The Answers to Thirty-two Pertinent Distribution Queries

Report of 1924 Committee

J. D. Von Maur Chairman

Toronto, Canada

OWING to the fact that the Distribution Committee was organized on somewhat different lines than has prevailed in the past, a description of the present organization is given below:

It is generally conceded that committees made up of a small number of members are more effective than those with a large membership. Large committees are unwieldy, involving a large amount of correspondence, and in the last analysis the real work is generally done by a limited few. On the other hand, it is equally true that just as we get out of an organization in proportion to what we put into it, so on committee work, the members get results and advantages for themselves and for companies with which they are connected, just in proportion to their contribution. The men in the gas industry who have achieved results and who now occupy the positions of honor, trust and responsibility, are precisely those who have contributed largely, and without stint of their time and energy, to the work of the industry. If it is true that committees, to be effective, must be made up of a few members, the logical result to expect will be that the few who work on the committees will be the ones to reap the greatest results; with only a few members on the committee only a limited portion of the country will be represented. The recommendations and the practices which will follow their recommendations will be, and have been, to a great extent in the past, more or less one-sided.

Work During the Year

In the organization of the Distribution Committee for 1924, an attempt was made to reap the benefits which result from the intensive work of small committees and, at the same time, to spread the benefit through a larger portion of the association membership. Forty-nine representative members were appointed on the committee, each of whom was connected with one of the large centers of the gas industry. Thirty-eight questions were submitted for study; these questions were to be studied by each member, acting through the company with which he was connected. The questions were not to be answered simply by stating what the practice was in any particular locality, but rather the opinion of the members, based on their previous experience and study, was the desired object. It was hoped thus to have a committee of one in each city, who would gather together the experience of his company on these various questions, being assisted by his immediate colleagues, and by any companies in his immediate vicinity which were not represented on the committee. If the member or his company had no experience or opinions on any particular subject submitted to him, he simply answered the question by saying "I do not know" or "We have no information on this subject."

Answers to Questions

It is interesting to note that on one of the most important questions submitted, over ninety per cent of the members answered by stating that they had no experience and therefore were not in a position to express an opinion, but when all of the members of the committee met for a discussion of the question, it is safe to say that the members included in the ninety per cent were the ones who obtained the most benefit from their committee membership.

After the answers to all the questions were received, the replies to each individual question were sent to certain members to be summarized. On June 23rd, a meeting of all the members was held in Toronto for the purpose of discussing these summarized reports. Twenty-nine members attended the meeting and represented cities as far east and west as Montreal and San Francisco, and as far north and south as Milwaukee and Atlanta.

The Work Next Year

Should the same methods be employed next year, the chairman believes that an even larger attendance can be expected at the summer meeting. At such a gathering the entire membership will have the benefit of the work of all the sub-committees and of the full, free, and informal discussion of all the questions considered. A previous study made by each company representative, is bound to be an advantage to both the company and the individual. Surely every progressive company, that wishes to have for its guidance and management full knowledge of all the questions asked, should, to that end, cheerfully assist and endorse the efforts of its representative on the committee.

It may seem to some that many of the questions have already been discussed until they are threadbare. Perhaps this is so, still the fact remains that our knowledge on many of these threadbare ques-

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*Presented before the meeting of the Technical Section, A. G. A., Atlantic City Convention, Thursday, October 16, 1924.

tions is still very much circumscribed. There probably have been more than 30,000,000 joints made on main pipes in the United States during the past three-quarters of a century; and yet in cities such as Chicago, Milwaukee, Detroit, Montreal, St. Louis, Toronto, Syracuse and Newark, all of whom are laying 20-inch medium high pressure cast iron gas mains, no two are using the same kind of joint.

The statement has been made that the design of the present cast iron bell is probably faulty. We do not even have a standard specification for the packing which is to go into the joint. The chairman believes that even the principle of trying to make a joint tight at the face of the bell instead of at the back of the bell is erroneous.

The present report should be considered as preliminary only. Several questions were definitely settled but many others must receive further study. More work and materials should be standardized and data on performances along many lines should be tabulated. The fact should be driven home to each member of the association that we get out of this committee work just what we put into it and each company and individual should put their shoulder to the wheel and contribute to the full extent of their ability.

The following report is arranged by simply stating first the question or problem originally submitted to the committee and following it with a summary of the replies and data submitted. It is the committee's hope that all of these problems will have a complete discussion on the floor of the convention.

Summarized Replies to Distribution Questionnaire

Question No. 1

"Househeating from the Distribution standpoint? The object of this question is to assist the Househeating Committee in arriving at some conclusions as to the conditions under which gas companies should undertake the househeating business. In order to solve the problem we must: 1st. Know what effect househeating has on the distribution system."

Answers were received from the following companies: Atlanta, Baltimore, Boston, Chester, Columbus, Detroit, Denver, Grand Rapids, Illinois Power & Light Corpn. Kansas City, Los Angeles, Lansing, Lowell, Milwaukee, Montreal, Mt. Vernon, New York, Newark, New Haven, New Orleans, Pittsburgh, Philadelphia, Providence, Rochester, Syracuse, St. Louis County, St. Paul, Toronto, Utica, Washington, Worcester.

From an examination of the answers to the above questions it is evident that gas companies have, as yet, entered this business only to a very limited extent. Out of thirty-one companies reporting on this question, twenty-one report very limited or no experience, and ten report some, but for the most part not extensive, experience in househeating business.

On this account, very few data resulting from actual experience are available relating to the effect of househeating load on the existing distribution system and manufacturing plant.

It is generally thought that househeating is a load that we probably will not have on our lines whether we wish it or not.

The additional send-out in cold weather above the ordinary load, corresponding more or less to the fall in temperature, represents heating load. An examination of this difference would indicate that we now have a much larger heating load than we ordinarily recognize.

In situations where the maximum hour occurs in September or May, or at a time containing no heating load, it is possible to take on househeating in winter sufficient to build up to this maximum hour without overtaxing present distribution facilities.

The opinion is frequently expressed that the increase in load, due to taking on this business, will be gradual and conditions, no doubt, will be adjusted to meet it as circumstances warrant.

Effect on Manufacturing Plant

In the opinion of a large proportion of informants, househeating with gas will necessitate a large amount of stand-by equipment in the manufacturing plant to take care of the maximum load in very cold weather.

One company located in a southern state reports: "On account of the tremendous heating load that we are called upon to furnish during the cold weather, it is obvious that we have to provide sufficient equipment to take care of this demand. In fact, two-thirds of our production plant is idle approximately ten months of each year."

Another company, supplying natural gas in a large city where the househeating business is highly developed, states:

"It is obvious that the capacity of the manufactured gas plant will have to be greatly increased. Large investments must be carried twelve months for a comparatively few days', peak demand, if proper service is given. We have had years when our whole system has been used to capacity only five days, and

this might be true in a manufacturing plant that attempted to do general househeating."

The following answer differs from the general opinion as to the method of taking care of the load on a manufacturing plant:

"Assuming a fair reserve in water gas apparatus already existing, there are many arguments in favor of additional holder capacity to tide over the cold weather demand:

"(a) The peak loads would pull down the holders instead of having to run extra machines and overloading exhausters, scrubbing system, purifiers and meters (station) all of which have to be enlarged, including connections.

"(b) The additional holder could be placed where it would relieve the pusher system.

"(c) Additional holder capacity would be of great value in arranging operating schedules during the warm months and saving money by omitting water gas on some shifts.

"Extra water gas sets and larger exhausters, etc., would not contribute to economy in this way. The extra investment would be dead during the warm months."

Effect on Distribution System

Although, through lack of experience, few data exist on the effect of househeating on the distribution system, there is practically general agreement that any substantial volume of househeating business would render existing distribution systems entirely inadequate and that expensive alterations and additions would have to be made to take care of the load.

Pittsburgh reports that although natural gas is used at a price of 50 cents per M., the character of the appliances and the methods of use are such as to make the figures comparable with manufactured gas practice directly.

Ten per cent of homes are heated with gas in boilers or furnaces. Sixty-nine per cent of homes are heated by individual room heaters entirely. Ninety per cent of all homes use individual room heaters regardless of coal-fired equipment.

Since hourly figures are those which directly affect the distribution system, it is interesting to compare the maximum winter hourly load of 45 cu. ft. with the summer hourly load of 10 cu. ft. It is also of interest to note the lesser variation from minimum to maximum for the winter load than for the summer load. Where distribution systems have been laid out on a basis of 15 or 20 cu. ft. per hour per consumer, the deficiencies for heating load are easily apparent.

COMPARISON OF HOURLY SENDOUTS

	Maxi. Winter Day	Min. Summer Day
Mean Temperature	16°	75°
Maximum hour, c.f. per consumer	45.0	10.3
Minimum hour,	23.7	4.7
Average hour,	37.0	7.7

Methods Adopted or Suggested to Cope with Load

One southern company reports:

"The effect of househeating on our distribution system is growing greater each year, which necessitates spending considerable money for reinforcing purposes. Our heating load is approximately 200 per cent above ordinary consumption. This tremendous drain on the system has been partly overcome by the installation of a medium high pressure line which is being extended each year or until such time as we will have a complete belt line around the city."

Another company reports:

"We have made no study of the effects on our distribution system, but we are of the opinion we could take on quite a volume of such business with the distribution system we have without overtaxing our facilities, provided too much of this kind of load was not concentrated in one district. We believe that many companies will find this to be the case with their systems. From observations we have made the diversity of the househeating load is rather poor."

Another company with some experience reports:

"In general, the effect of househeating load on a district holder distribution system is to increase the loads and necessary capacity of the transmission mains between holders, and to increase the load factor on the distributing mains. The location of househeating demands must be watched, of course, and the supply mains reinforced or replaced wherever the load becomes excessive. However, in the introduction of househeating, new investment for mains can be kept at a very small figure by soliciting househeating in locations where main replacements will not be required."

It is of the utmost importance to consider the House Heating problem entirely on its merits and give to it the same careful consideration and treatment as we do any other kind of business.

An analysis of thirteen house heating plants in a large mid-western city, for the cold season of 1911-1912, showed total annual sales of 15,838,500 cubic feet with a connected burner capacity of 12,205 cubic feet or a load factor of 1,298.

Twelve plants in the same city, for the season 1912-13, gave a load factor of 1031.

Thirteen plants in the same city, for the season 1913-14, gave a load factor of 995.

Eight plants in the same city, for the season 1914-15, gave a load factor of 972.

Nine plants in the same city, for the season 1915-16, gave a load factor of 842.

Ten plants in the same city, for the season 1917-18, gave a load factor of 1,342.

Nine plants in the same city, for the season 1918-19, gave a load factor of 967.

Twenty plants in the same city, for the season 1917-18, gave a load factor of 1,454.

Attention is called to the fact that while 10 plants, during the season of 1917-18, gave a load factor of 1,342, 20 plants during the same season gave a factor of 1,454. This seems like positive proof that there is

a diversity factor, although it is not very large, or that the burner capacity of the plants was larger than necessary. If we now take the cooking load and assume that the average consumption of all gas ranges is 25,000 cubic feet per year, and the peak load per range 15 cubic feet, we will arrive at a factor for the cooking business alone of 25,000 divided by 15, or 1,666, as against a house heating factor of 1,454. The latter factor cannot be very far wrong, as the peak load per hour was arrived at by taking the actual burner capacity of each plant. In other words, if all the plants were operated at full capacity at the same hours, the demand could not have exceeded 1/1454th of the total actual sales.

Other questions asked, whose answers cannot be given here for want of space, are as follows:

2. "When and under what conditions should demand-limiting meters or devices be used? Describe those available."

3. "Automatic distance pressure control? Describe system in use and condition under which it is advisable."

4. "What are the advantages and disadvantages of spiral cast iron pipe made by the centrifugal process, and to what extent has it been used?"

5. "Under what condition is it advisable to use joints of the Dresser type with wrought iron or steel pipe?

(a) "Under what conditions is it advisable to use joints of the Dresser type with cast iron pipe?

(b) "If plain end cast iron pipes are used with joints of the Dresser type, should the pipe be made by the centrifugal process or by the old process?"

6. "What are the advantages and disadvantages of laying gas mains in parkways, and under what conditions should they be laid in the pavement between curbs?"

7. "Under what condition does it pay to use excavation machinery for the laying of gas mains?

(a) "Describe type of machine used and give results obtained.

(b) "Can machinery be used advantageously for filling in trenches?"

8. "What is the relative life of steel and wrought iron pipe laid under average conditions?

(a) "What life can be expected from steel and wrought iron mains laid under average conditions?

(b) "What is the relative leakage that can be expected with steel wrought iron and cast iron mains laid according to the best ideas of modern practice?

(c) "What kind of pipe coverings are available, and how much additional life can be expected from the use of such covering on wrought iron or steel pipe?

"The object of this question is to throw light on the subject as to whether, after all, the problem is not one of pipe covering rather than whether wrought iron or steel should be used. It seems reasonable to believe that if a good covering can be developed that the life of both steel and wrought iron would be increased, and the life of each would be practically the same."

9. "What is the relative value of cast iron wrought iron or steel for high-pressure distribution, the limiting conditions under which they should be used, and recommendations as to when it is best to use screw joints, ox-welded or electric-welded joints in connection with wrought iron or steel pipe?"

"This question, with its sub-heads, is presumed to cover a rather large field, and each member of the Committee is expected to add something to the discussion.

"All of the answers, after being received by the Chairman, will be forwarded to some one member for editing."

10. "Under what conditions should stop cocks be placed on service pipes?"

11. Describe the process of cleaning out distribution mains by any successful method you may have used."

12. "Are gas companies suffering from the destruction of service and main pipes by electrolysis, and what is being done to remedy the situation?"

13. "Description of pumping units used for the pushing or compressing of gas for distribution purposes."

"Each member of the Committee who is pumping or compressing gas should send in a description of his particular installation, with as much data as possible. These answers, when received by the Chairman, will be sent to some one member for editing."

14. "For what use has compressed air been found an advantage in distribution?"

"This will be largely a resume, but it is hoped that some new uses for compressed air have been found, and if any member has had experience with installing service pipe by means of compressed air, a full description of the method and results is desired."

15. "Safe rules to be observed in the use of compressed air for cleaning out house pipes and services."

16. "Methods and equipment for the instruction of Distribution employees."

17. "Methods of removing different forms of stoppages from gas mains. Of late years we have encountered new forms of stoppages; some of these consist of molasses-like tar, others, heavy pitch. Some of the stoppages have been found in high-pressure drips only. The methods of dealing with these stoppages will certainly be of interest to all."

18. "Types of high pressure governor pits, governors and equipment."

19. "What should be the limits of pressure at the outlet of the customer's meter, and what limits in variation of pressure should be allowed?"

20. "Meters shop practice. It would be very interesting if every company having a meter repair shop would give a short description of his meter shop practice. For instance, a number of companies have recently turned to the use of yarn treated with tallow only.

"What material is used for stuffing boxes?

"What kind of yarn?

"How long are diaphragms seasoned before being put in meters?

"What pressure tests are repaired meters subject to before being accepted?

"Is anyone dipping or spraying meters? Etc., etc."

22. "Where should drips be located on H. P. mains where the pressure exceeds 10 lbs.?"

23. "Experience with rotary meters of the Connersville type for industrial purposes."

24. "Causes for meters becoming very slow, very fast or D. R."

25. "Has the double click in meters proven to be an advantage?"

26. "What packing has proven best for use in lead and cement pipe joints?"

27. "Causes of stuck meters."

28. "Should Commissions allow meters to be set which are plus or minus 3 per cent. provided average of all meters set are plus or minus 1 per cent.?"

29. "In cities 400,000 or over should there be at least one shop in addition to the central shop?"

30. "How many fitters' automobile accidents per car in service took place during 1923? In each answer indicate whether transportation facilities are directly under the supervision of Distribution Superintendent or under some other department head."

31. "Give your ideas of what you consider a fair weekly wage of various types of employees, foremen, and superintendents, under 1924 probable conditions in your city."

32. "What material do you use for service pipe—wrought iron, steel, galvanized, etc.? Describe the covering you use.

"What advantages are there in the use of galvanized pipe?"

33. "What additional distribution troubles have been encountered since gas having a lower B.t.u. standard has been distributed, and how are such troubles taken care of?"

34. "Have any old troubles diminished or disappeared since a lower B.t.u. gas has been distributed?"

35. "Where high-pressure gas is distributed, are any new distribution troubles encountered, or have any old troubles either increased or diminished?"

36. "State under this number any new wrinkles, or any new ideas which may be of assistance to the distribution end of the gas industry."

37. "Set down under this number any distribution questions on which you would like further information."

38. "Should a concerted effort be made in the gas industry to replace the present meter dials with straight-reading meter dials?"

39. "There is a crying need in the gas industry for a simple and inexpensive device that will indicate the rate of flow of gas in mains. The element of demand is, I am glad to say, coming more and more into the gas industry. The absence of any inexpensive portable and easily installed device for measuring demand is a drawback."

"This report has been considerably abbreviated due to lack of space to print it fully. It can be obtained in its entirety from the American Gas Association.—Editor.)

*Waste and the Company's Printing Bill

A Thorough Discussion of the Printing Problem of a Gas Company

R. A. Pettengill

SINCE every gas company in the United States uses printed forms and stationery, in the purchase of which millions of dollars are spent, I contend that this subject is of vital importance to every utility man—not because of the amount which his company spends individually, but because of the total amount expended and because every act by you or me which helps to lower the total cost for printing tends to act as a benefit to all.

We are approaching a new era in business. We are finding that it pays to tell others of our successes. What better example could you have of this than this Association of gas men who meet each year and, through its committees, many times a year to assist each other in bettering operating methods?

*Delivered before the meeting of the Accounting Section, A. G. A., Atlantic City Convention, Thursday, Oct. 16, 1924.

Importance of Printing

The importance of the subject of printing which I wish to discuss is not concerned solely with the expense involved, for printed forms are the means by which the most important transaction of any business is conducted. They serve as the tools of business; if properly designed, they practically direct the methods by which all work is done. The importance of their design might even be compared to the importance of the design of the most intricate tools of a manufacturing plant.

Printed forms, however, do more. They give or

should give the history of all transactions from the time the work is started until it is completed. Any step, therefore, that is taken to better a printed form tends to create a better working condition.

Since this paper is intended to cover all of the general phases of the subject with which it deals, it will perhaps be of value if I outline briefly my own experience and efforts in this field.

The Gas Company's Printing Bill

Before offering constructive suggestions on how waste can be eliminated in the Gas Company's printing bill, I would like to call attention to the defects in the present system as we see it. It can be summarized as follows:

Each job of printing, to a very great extent, has been originated and developed as an individual job, designed to meet the particular need of the moment and changed or left unchanged as the subsequent use demanded.

Each job in turn usually has been originated and as a natural result specifications developed, without due regards to the effect of these specifications upon the ultimate method and cost of manufacture.

Each job is ordered as needed with desired delivery date fixed before the order gets to the purchasing agent and thus by necessity manufactured to suit the convenience of others than the printer.

A large majority of printers have, therefore, been obliged to organize their shops so as to give the required service at a price which is based upon costs in shops averaging but 60 per cent production.

The economies possible from a continuous process or repetitive industry have not been possible because of the needless variety of temporary expedients and hand-to-mouth methods of keeping up the supply of printed forms in general practice.

Money Lost In Old Methods

Gas Companies, in the aggregate, are losing a very large sum of money each year as a consequence of the old methods still in vogue.

There are hundreds of instances in each year's transactions of your business that will show the correctness of the above statements and reasoning.

To overcome the extravagance, which is the natural result of the present haphazard methods, is not a task concerned solely with the printer and the one charged with the responsibility of purchasing printing in an organization. The reform must go deeper and must bring about cooperation of all interests—the executive, the user of the form, the accountant and, if you please, the storekeeper. In addition to the purchasing agent and the supplier (and by supplier I meant the printer and his entire organization including salesmen, estimator, foreman and the man who actually turns out the job), there is one man in each organization who must bear the brunt of the work to be done and I wish to point out that such a man may greatly assist in establishing a better condition in his company while bettering his own future because of the familiarity which he will gain with the operating methods which comes as a natural result of an intensive study of printed forms.

Attacking the Problem

My first suggestion to such a man, when assigned the work, is that he determine to study this subject. He should have a clear and accurate idea of manufacturing processes. He should know something about the market as it affects labor and material costs. He should establish relations with some reputable laboratory and familiarize himself with the subject of printing costs.

Having made the resolution to master the subject, the man in the local company should divide his work into three main divisions:

1. Designing of forms.
2. Proper purchasing of forms.
3. Proper storage and distribution.

Designing of Forms

My next suggestion to the individual who selects or is assigned this work for his company is to approach his superior executive with the statement that large savings can be made in the purchase of printed matter, but not unless the individuals of the company, including executives and department heads, accept general basic standards of design, material and manufacture. There are thousands of possible sizes which will fit binders which are available and which will cut out standard mill sheets of paper available to printers. There are thousands of different printing type faces on the market. There are thousands of different trade brands of paper. All of these most certainly cannot be accepted as standards. General suggestions as to the selection of standards are set forth below which should be subject to change and modification, but a limited set of standards must be adopted or else your work will be of no avail.

Selecting Your Standards

1. Of design.

The first and most important standards to set are the standards of design. Choose the printing type faces which most nearly meet the approval of the officers and department heads of your company, using the smallest type which will be acceptable. Always place a title and form number on a form. All cross ruling should be 2, 3, 4, 5 or 6 to the inch. All heading should be set in capitals. All reading sentences in upper and lower case. All down ruling should be in approved unit style. Columns should be preferably in widths which are divisible by ⅛ inch.

2. Of Size

The second set of standards to set are the standards of size . Of the several hundred possible sizes which can be cut from the most common mill sheets available and the several hundred sheets which might be chosen because they would fit standard binders or fold into standard envelopes, I have chosen twenty-five. These sizes have been selected after having considered filing equipment, binders, envelopes and mill sheets of paper available, as well as printers' equipment, and offer a sufficient range for almost any organization. We present them herewith with the suggestion that they be accepted by you as a proper set of standards for sizes.

3in.x 5 in.
3½ x 6
3½ x 8½
4 x 6
4 x 9
4½ x 7
4¼ x 11
5 x 6
5 x 8
5½ x 8½
5½ x 7
6 x 9½
7 x 8½
8 x 10
8½ x 11
8½ x 14
9½ x 12
11 x 11
11 x 14
11 x 17
12 x 19
14 x 17
17 x 22
17 x 28
19 x 24

3. Of Paper

General standards should also be set for paper after a study is made of the requirements of the printed forms of your company.

In most concerns the best grade of sulphite bond will meet the required service of at least 50 per cent of all forms used, two additional grades of bond paper should be chosen, one of 75 per cent rag for important documents and letter heads, a second of, say 25 per cent rag for forms where the sulphite sheet will not be satisfactory. In addition to this there should be two or three grades of ledger paper, one of, say 85 per cent rag, one of 40 per cent rag and a third of 100 per cent sulphite. There should be a manila paper for cheap forms such as bills of lading, two grades of indexed bristols, the the better grade for cards requiring severe use and the second grade for cards of shorter life. There should also be three grades of envelope paper, manilla which is satisfactory for mailing bills, white envelope stock for general purposes and craft paper for envelopes requiring severe use.

Determining Paper Specifications

It is my advice that you use some commercial laboratory to assist you in selecting basic standards for your paper. For instance, buy paper for your customer's ledger, not by specifying some particular water marked paper, but through a specification, after a determination by laboratory tests which will show in terms, which will be understood by paper men, what the ingredients are that will make a satisfactory paper. Thus, you will be able to duplicate the quality without necessarily paying a high price for some particular water mark. In the case of small utility companies I would say to co-operate in these matters with your printer. Give him the advantage of your advice; let him secure the laboratory tests and you will find that you are performing a service to him and to his customers as well as to yourself.

4. Manufacturing Specifications

Having selected the design, size and paper for forms you should determine the manufacturing specifications. On forms that are printed in large quantities eliminate pen ruling where possible. Eliminate such numbering as possible. Eliminate the printing of separate original and duplicate forms, triplicates and quadruplicates where pads of the same forms will answer the purpose.

Written Specifications

Having determined the specifications, these should be prepared in writing and should be sufficiently clear to indicate to the purchasing agent, the printer and store keeper just what is expected. If you do this you will eliminate a large percentage of error, particularly if you are open minded regarding your specification and are willing to rewrite it when it becomes apparent that the understanding between the above mentioned men is not clear. All those affected should have exactly the same understanding and the specifications should set this forth.

General Suggestions

My general suggestions are, above all, work slowly at first. Take the clerk who uses the form. Book his advice. The printed form is an important part of his daily life. If you can give him the opportunity of suggesting changes, it is a great satisfaction to him, and, most important of all, go about this with the idea of definitely selling your executive, for

it is his support which will ultimately determine whether a form shall or shall not be accepted.

In the application of standards you should attempt also to place a printed form on the smallest size that will **meet the requirements.** Furthermore, on the lowest priced paper that will **meet the requirements.** But please note that **Meet the requirements** is emphasized. Five colors of paper are sufficient in almost every instance. We suggest white, buff, blue, green and pink.

Where colored papers must be used, place the form involving the largest amount of money on white, the one involving the second largest amount on buff, the third on blue, the fourth on green, and the fifth on pink. This principle, adopted universally, would result in large orders of forms requiring white papers and smaller orders on papers requiring buff and so on in the order mentioned above. The use of colored papers has resulted in extreme conditions as illustrated by one company in which we were employed where we found it necessary for 35 different colors to be used in order to differentiate between a number of different forms. In fact, it was necessary to get into two toned papers such as safety papers in order to get the complete set. This was eliminated by us through a substitution of a simple set of black numbers placed in the left upper corner of the forms and the standardization of sizes so that forms could be filed systematically and located when required.

The Purchase of Printing

With standard specifications completely accepted you are now ready to purchase the purchase of standard printing is the means by which savings are demonstrated, but it should be borne constantly ir mind that this saving cannot be made through what would be termed "clever" or close purchasing, if the form has not been properly designed so as to allow savings in the actual manufacturing costs of the printing. At the same time it should be borne in mind that if the purchasing is not properly handled that the opportunity of savings will be thrown away, even though forms have been properly designed.

I would recommend, therefore, that the man in the gas company who takes up this subject, having sufficiently familiarized himself with manufacturing processes to allow him to properly design forms now cooperate with the man in his organization who is charged with purchasing and, working together with this man, decide for the time being to live in the spirit of the printing industry, for this is what is necessary in my belief to bring about the desired results.

Cooperate With Your Printer

I can suggest no better course for you to follow than to cooperate with the printer or printers who handle the larger part of your work, for, provided you desire to familiarize yourself with this subject of printing, there is no one in a better position to help you in your education than the reliable printer and I would like to state here that the more you learn of the printing industry, the more likely the printer is to secure a higher net profit, and if the man in your organization charged with purchasing does not start out with this general thought in mind, any plans which you may have with the idea of economizing in the actual cost of printing and stationery will be defeated. Savings must be made by eliminating waste—not by cutting the profits of the printer.

A Set of Rules

Printers, generally, are in business for an existence and therefore welcome any condition which will bring about an opportunity for them to stabilize their business and secure a more certain livelihood. You are, therefore, in an excellent position to approach the printer with the idea of securing his cooperation on your program. I, therefore, recommend in the consideration of this subject that you be certain that the man in charge of purchasing for your company observe the following rules:

1. Encourage competition but don't overdo it.

2. Make your specifications simple and easy to figure on.

3. Work with rather than against the printer and encourage his suggestions toward economy.

4. Don't let the printer lose money on your work.

Conclusion

In conclusion I would like to make a number of general suggestions for you as follows: Take up this subject as a program, not as an incident. Make up your mind that it is a subject requiring years—not days—of consideration. Resolve that no matter how well the work is done that it is never finished and can continually be bettered. A printed form when it is made standard cannot be made a permanent standard, for you must take into consideration the fact that your experience and the experience of others is going to result in development and continually bettered methods of operation. And last, in summarizing my suggestions about purchasing, be certain that the opportunity for savings from intelligent consideration of the accounting and business end of your business is not thrown away through attempting to save so much that you deprive the printer of his profits. What you learn use to help the printer rather than hinder him else you will find your knowledge of this subject to be a boomerang.

*Carbonization and Complete Gasification of Coal

New Gas Manufacturing Committee Proposed

Report of 1924 Committee

E. H. Bauer Chairman

Worcester Gas Light Co.

FIRST of all, I wish to thank the members of the Carbonization Committee and the members of the various sub-committees for the help they have given in getting out this report. It is a pleasure to know that the gas fraternity has men who, in addition to their regular work, find time to do extra work for the benefit of the industry at large and which work will, without a doubt, make for better conditions throughout this country of ours.

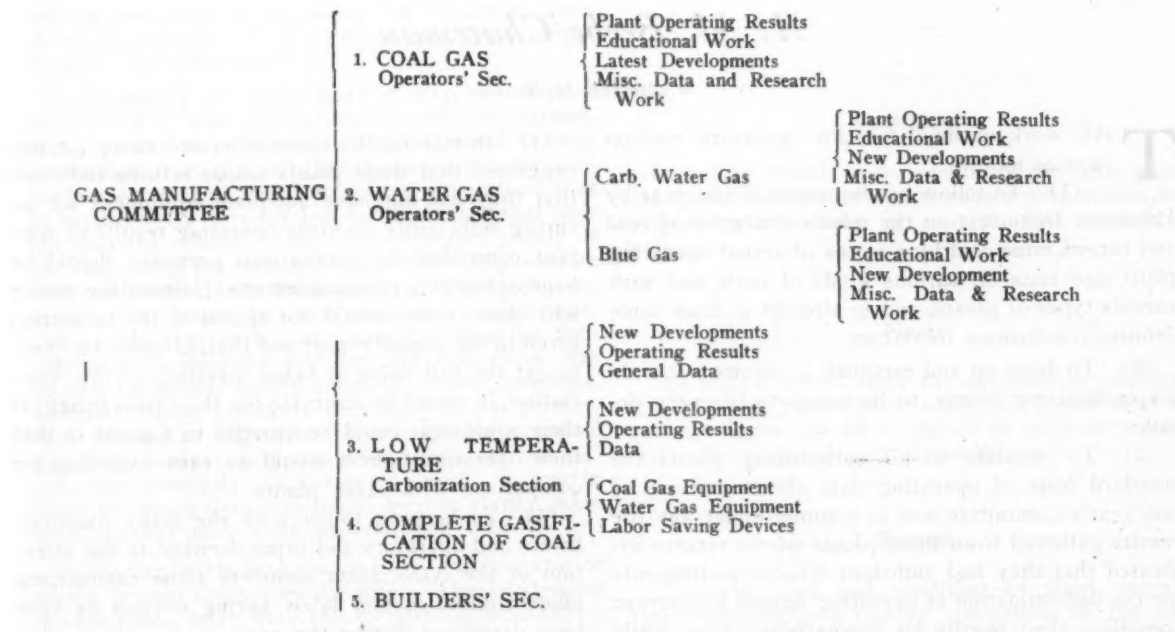
Four Divisions of Work

This year, as in 1923, the work of your committee was divided into four sections, namely,
Operators,
Low Temperature Carbonization,
Complete Gasification of Coal, and
Builders.

Your Managing Committee outlined the work that the committee and its various sections was to do this year and inasmuch as the work of each section is outlined at the beginning of the individual reports, it will not be touched upon here nor will I attempt to steal any of the sub-committee chairmen's thunder.

At this point I want to make a special plea to those company managers and executives (who think that they cannot afford to allow their men to do committee work) to allow them to take active part in the work that the association is doing. We must progress in order to hold our high standing. The better we march along with the parade of progress the more chance we have to lead the parade. Stop, and the parade of progress passes you and then you only become a "looker on."

No separate report this year will be made of the Section on Complete Gasification of Coal, but a progress report only is given on a plant now being erected at Worcester, Mass. It is hoped that if any of the members of our association have any specific data on this subject that they will bring it up now, in order that our proceedings for this convention will be more complete.



*Presented at the meeting of the Technical Section, A. G. A., Atlantic City Convention, Thursday, October 16, 1924.

Your chairman wishes to make a suggestion on the rearrangement of some of the committees in the Technical Section. At present we have a Committee on Carbonization and Complete Gasification of Coal; divided into sub-sections for

Operation,
Low Temperature Carbonization,
Complete Gasification, and
Builders.

There is also a Committee on Carburetted Water Gas Manufacture with sections on

Carburetted Water Gas Manufacture,
Blue Gas Operation, and
Builders.

Gas Manufacturing Committee

Both of these gas manufacturing committees have many things in common and also have men acting on one or the other committee who are vitally interested in both subjects of coal gas and water gas manufacture. Therefore, your chairman suggests that the Technical Section, Managing Committee, arrange for a Gas Manufacturing Committee. This main committee will have under it five subcommittees, one for the Manufacture of Coal Gas and one for Water Gas, one for Low Temperature, one for Complete Gasification of Coal and one for the Builders. A chart of the proposed arrangement in the following:

This arrangement of committees would also expedite the work on the convention floor.

It is very gratifying indeed to have the meetings of the various committees so well attended the past year, and I trust that the same support and co-operation will be given to the incoming chairman of this committee.

Report of the Operators' Section

Five Separate Problems are Reported

A. M. Beebe Chairman

Rochester, N. Y.

THE work outlined for the Operators' Section was as follows:

(1) To follow up the report of last year by Professor Demorest on the relative value of ¾ coal and run-of-mine coal by a series of actual operating plant size tests on various kinds of coals and with various types of plants, and to attempt to draw some definite conclusions therefrom.

(2) To draw up and establish a definite test code for carbonizing plants, to be complete in every detail.

(3) To circulate to all carbonizing plants the standard form of operating data sheets devised by last year's Committee and to compile under key the results gathered from those plants whose returns indicated that they had sufficient reliable instruments for the determination of operating figures to warrant compiling their results for comparison. Also, while making this canvass, to bring to the attention of those in charge of all carbonizing plants that the Operators' Section existed solely to be of service to the various companies and to offer the utmost help and information available on any problem by a committee of practical carbonizing plant operators.

(4) In making the above-described survey, it was suggested that those plants whose returns indicated that they did not have adequate equipment for securing sufficiently accurate operating results to warrant compiling for comparison purposes should be approached by a personal letter explaining the reason why their results would not appear in the tabulation given in the annual report and that, in order for them to get the full value of being members of the Association, it would be desirable for their own benefit if their equipment could be brought to a point so that their operating figures would warrant compiling for comparison with other plants.

(5) To keep in touch with the many manufacturers and operators and bring forward to the attention of the Association members those carbonizing plant auxiliaries and labor saving devices as have been developed during the year.

(6) To canvass the various members of the Carbonizing Committee in order to determine the actual inerts existing in various qualities of B.t.u. coal gas in the various types of plants.

The reports covering these various items are given in the following:

Tests of Run-of-Mine versus Three-quarters Inch Coal for Carbonization

F. D. Lohr

Seaboard By-Product Coke Co.,
Jersey City, New Jersey

A. M. Beebe

Rochester Gas and Electric Corporation,
Rochester, N. Y.

THIS committee was formed at the request of the chairman of the Operators' Section of the Carbonization Committee, in his words, "to follow up Professor Demorest's exeriments on the relative value of sized versus run-of-mine coals" by arranging for actual works tests in a number of plants, at least one each in the following:

(1) A plant of Horizontal Retorts.
(2) A plant of Intermittent Verticals.
(3) A plant of Continuous Verticals.
(4) A Coke Oven Plant.

The object of Professor Demorest was to determine the relative value of screened and run-of-mine coals by means of tests run in an experimental retort which had been erected at Ohio State University. Several tests were run on a number of different coals but the opinion of the Association as reflected in the discussion of Professor Demorest's report at the 1923 convention seemed to be that the tests were not extensive enough to be conclusive and that more work should be done on this problem, preferably by means of large scale plant tests.

In arranging for these tests it was immediately found that a wide divergence of opinion existed. Many operators, principally those interested in coke production primarily, felt that the general factors and tendencies were so well known and understood that no further tests were needed, for the reason that they felt that the relative value was a function purely of the analyses of the fines as compared with the coarser coal, and that if the fines analyzed practically the same as the larger fuel that there was little choice. Others felt that each plant and coal must be considered as a separate problem and that there was no general answer to the question. Some operators, especially those primarily interested in gas production, seemed to feel that even though the screened and run-of-mine coals analyzed the same the ¾" coal was generally the better gas coal. It was in order to secure data that might help to clarify these opinions that more work was thought justified.

Accordingly through the courtesy and cooperation of the several companies for which acknowledgment is here made, tests were run by them as follows:

Horizontals—Lowell Gas Light Co., Lowell, Mass. United Gas Improvement Co., Philadelphia, Pa.

Intermittent Verticals—Rochester Gas & Electric Corp., Rochester, N. Y. United Gas Improvement Co., Philadelphia, Pa.

Continuous Verticals—Springfield Gas Light Co., Springfield, Mass.

Coke Ovens—Battle Creek Gas Co. (data to be reported later as test will not be completed in time for preliminary report).

The summary of the results obtained from the various tests is given in Table 1. Since the purpose of the tests was to compare the two kinds of coal at each plant and not in any way to compare plant yields it was thought that the comparison desired could be brought out better by reporting the yields of run-of-mine coal at each plant as percentages, calling the yield on screened coal at that specific plant 100 per cent. This, it is hoped, will emphasize the comparative values and prevent any discussion as to actual yield, etc., not relevant to the problem in hand.

(In the original there follows a discussion of results.

Summary

Therefore, based on the results of the tests given and on the opinion of the operators with whom the committee has come in contact, the committee feels:

First

The tests obtained show the variation in values of screened and run-of-mine coals to be such that no average figure can be or should be used as the criterion for a specific set of conditions.

Second

That the type and condition of plant, storage transportation and mining conditions of the coal constitute in each instance a different problem requiring individual study for its solution.

Third

That in considering only the coke production the relative value is a function of the analyses of the

TABLE 1—Results of Plant Tests on ¾" and Run-of-Mine Coals.

Name of Company	United Gas Improvement Co.		Rochester Gas & Electric Co.		Springfield Gas Light Co.		Lowell Gas Light Co.		U. G. I.	
Type of Plant	Intermittent Verticals		Int. Verticals		Continuous Verticals		Horizontals		Horizontals	
Kind of Coal	Lincoln Gas Coal		Allegheny Cty. Pittsburgh Seam		Hillman		Fairmont		Lincoln Gas Coal	
Size of Coal tested	¾	R-of-M	¾	R-of-M	¾	R-of-M	¾	R-of-M	¾	R-of-M
Size normally used	"	"	"		"	"	"	"	"	"
Duration of Test—days	21	31	30	31	30	31	15	32	23	91
Tons Coal Tested	3506	5196	16710	17422	4560	4061	2562	5286	3732	15687
Coal Analysis										
Moisture %	2.00	2.34	.47	.91	1.03	2.01	6.10	4.33	2.00	2.34
Vol. Matter %	38.20	37.30	34.80	34.40	36.10	35.19	37.10	37.28	38.20	37.30
F. C. %	53.95	54.01	55.77	57.74	54.45	54.48	56.11	55.50	53.95	54.01
Ash %	5.85	6.35	6.96	6.95	8.42	8.32	6.79	7.22	5.85	6.35
Sulphur %	1.77	2.16	1.02	.78	1.07	1.15	1.00	1.06	1.77	2.16
Coke Analysis										
Moisture %			—	—	.39	.50				
Vol. Matter %			1.10	1.90	3.86	3.61				
Ash %			10.30	11.10	8.04	10.87				
Sulphur %			.79	.81						
Yields (Wet Basis)										
B.t.u./lb. Coal % of ¾ yield	100	100.5	100	96.5	100	98.2	100	100	100	97.3
Lbs. Coke/ton % of ¾ yield	100	98.5	100	—	100	74.3	100	100	—	—
Tar/ton % of ¾ yield	100	85.0	100	98.5	100	36.0	100	100	100	85.5
NH_3/ton % of ¾ yield	100	100	100	96.5	100	58.0	100	100	100	104.0
H_2S/100 cu. ft. % of ¾ yield	100	120	100	103	100	94.0	100	100	100	119.0
Weight of Charge—Lbs.	2129	2138	2189	•2248	—	—	1558	1570	—	—
Remarks on Coals				•Hard to handle due to sticking in retorts more intense. Coal harder to carbonize thoroughly.						

various sizes, as long as they have equal coking properties as to structure, etc. However, considering the products resulting from the volatile constituents of the coal there is a decided tendency in favor of the ¾ inch coal, the amount being a function of numerous conditions.

Fourth

It usually follows that screened lump coal is superior to smaller sizes as is indicated by the series of tests reported herewith, but plant yield is but one of the many factors to be considered in a dollars and cents analysis of the problem.

Standard Carbonizing Plant Test Code

Detailed Report Forms are Given

D. W. Wilson,

Iroquois Gas Company, Buffalo, N. Y.

THE Committee has endeavored to draw up a standard test code for carbonizing plants, with sufficient instructions and necessary tables to be real guide and standard for such work. The test code complete is as follows:

Operating Efficiency—Coal Carbonizing Plants

The test period should be, if possible, thirty days, during which time operating conditions should be as constant as practicable. Coking speed, coal mix, fineness of coal charged and other operating conditions should be held within the narrowest possible limits.

The entire coal carbonizing plant has been divided as far as possible into its component units, around each of which sufficient data for heat balances can be obtained. The object of this is to know operating conditions in detail for each part of the plant.

Conditions Defined

All volumes are to be at 60° F. 30″ of mercury and saturated with water vapor unless otherwise specifically so stated in the various tables. All heating values shall be gross and, in the case of solid materials, on dry basis, in the case of gasses at 60° F. 30″ of mercury and saturated with water vapor unless otherwise so stated. All temperatures shall be given in degrees Fahrenheit. All analyses, unless otherwise specified, are to be reported upon a dry basis and in all cases shall include the percentage of moisture, which also shall be reported upon the dry basis. **All quantities whether of volume, B.t.u. or weight throughout all tables shall be given per net ton of dry coal carbonized.** As a temperature basis to which all sensible heats shall be referred 60° F. is to be used.

Sampling

All the sampling methods and processes of analyses shall be as given in the latest edition of the Gas Chemists' Handbook. Much care is necessary to obtain proper sampling as painstaking analyses may be entirely wasted due to faulty sampling. Particularly, coal and coke are difficult to sample correctly, especially as regards proper proportions of the different sized pieces of them. In the case of coal and coke, an excellent test of the accuracy of sampling, and of analysis, comes from an ash balance, a close check on which should be obtained before accepting any figures on sampling or analysis of either coal or coke.

Radiation and Convection Losses

No rigid determination of losses due to radiation or convection is possible as sufficient experimental work has not yet been done to enable this. The following method is only one of several which are available. It is suggested for three reasons:

1. Its application is fairly simple.
2. Its results are probably as nearly correct as in any other available method.
3. Although not correct, results obtained by use of this scheme will be comparative from one plant to another and will avoid determination of radiation and convection by considering it simply a difference between all other quantities and the total heat input.

The total hot surface of retort, producer or generator should be divided into several areas, each of which within itself is an area of reasonable uniform surface temperature. For instance, a coke oven may be divided into brickwork on top, brickwork on the sides, iron work on top and iron work on the sides. The surface temperature of each of these areas must then be obtained. Several ways are available for getting this figure. Either a thermometer or a thermo couple may be used for it. In either case the thermometer or thermo couple must be insulated from the atmosphere. Furthermore, it must not be held stationary in one spot insulated in this way as obviously in this latter case, the temperature would continue to rise almost indefinitely due to insulation. Such insulated thermometer or thermo couple should be moved around over the hot surface until the temperature becomes uniform. This can then be taken as the surface temperature.

(The original report contains a set of tabulated report forms with a detailed explanation of the items thereon. These have been omitted for want of space. —Editor.)

Record of Plant Operating Results

Data Obtained from Questionnaires

W. D. Stewart

Fall River, Mass.

ONE of the activities of the Operators' Section of the Carbonization Committee this year, in an effort to be of service to carbonization plant operators, has been to send questionnaires regarding data of plant design and operating results to all coal gas plants in the United States.

There were 204 questionnaires sent out, of which 77 or 37 7/10 per cent were returned. Of these 77, the data on 67 was complete enough to justify publication, the balance, either not now making coal gas or giving only incomplete data. It is felt that these 37 7/10 per cent of the coal gas plants of the United States were sufficiently diversified in type to be representative of the whole coal gas industry.

The most important single item in the graph to which the committee feels that attention should be directed is the comparatively small number of companies which weigh their producer fuel. Next to the cost of coal this is usually the largest cost of making coal gas. Only 43 3/10 per cent of the companies reporting weigh their producer fuel, so the balance must be estimating this, their second largest cost of manufacture. It is evident, of course, that a small percentage improvement in economy in the major items of expense is often worth more than even the total elimination of the small items. Therefore it is certainly worth while to know accurately the amount of producer fuel used, that irregularities in operation may be quickly corrected.

Operating and Labor Saving Devices

S. B. Sherman

Wisconsin Gas & Electric Co., Racine, Wis.

THIS report was not intended to cover the element of plant design, this being a function of the Builders' Section. It seems that there is no sharp line of division so that this report may overlap that of the Builders' Section, which can do no harm, other than duplication. As the report should cover all size plants and conditions, some items may seem inadvisable to mention.

(A large number of devices are described in detail. This section of the report is too long to be reproduced here.)

Report of Committee on Complete Gasification of Coal

Edward H. Bauer

Worcester, Mass.

INASMUCH as there was no Chairman for this Committee, this short report will only contain the information on one (1) plant which is in the process of construction and will be in the form of a Progress Report.

At last year's Convention you were informed that a plant for complete gasification of coal was to be built on the Worcester Gas Light Company's property as soon as arrangements could be made to finance the work.

About January 15th of this year the Oxygen Process Corporation was incorporated and given the right to build a gas plant for the complete gasification of coal, operating under the Jefferies-Norton Corporation's patents. For the outline of the process used, you are referred to the Proceedings of the New England Association of Gas Engineers, Fifty-first Annual Meeting, Feb., 1921.

Since January 15 very good progress has been made in building this plant and at the present writing 85 per cent of the equipment is erected, 90 per cent of the equipment is at the plant and it is hoped by the 15th of August that the oxygen plant will be placed in operation.

The latest developments of this process and the progress which is being made will be given at the time of the Convention.

Report of the Low Temperature Carbonization Section

The Latest Developments in the Field are Given

S. W. Parr,

University of Illinois, Urbana, Illinois

IN reviewing the low temperature situation as it stands today, the attempt is here made to convey such information to the members of the American Gas Association as will keep them as nearly as possible up to date on this very interesting topic. The question may also be fairly asked as to whether developments in this field have progressed far enough to indicate just what interest if any the project may have for the gas manufacturer.

Is it a gas proposition? And if it is, why, how, and when? Of course any even remotely adequate answer to these questions must be based on knowledge obtained from actual experience, and it must be confessed at the outset that such knowledge is as yet very meagre. However, things have been happening, and while this topic is merely or chiefly in the "happening" stage, the clearly defined function of this committee is to make note of the happenings.

Subject Retains Interest

Let it be noted at the outset that the subject retains all of its perennial interest. This in itself is an item worthy of note. In order to maintain so lively an interest for so long a period there must be present one or the other, or both, of certain conditions. First, the end sought must be exceedingly desirable and attractive; and, second, there must be occasional glimmerings of success—and an occasional stride forward towards the goal. Both of these incentives exist, and certainly that one of attractiveness and desirability in the all around ends to be accomplished has no equal in the entire industrial, economic, political, social or domestic realm. This, it is recognized, is an extreme statement, and, insofar as it requires time for verification, is more of a prophetic than a verifiable remark.

But it will be the part of wisdom at this time to touch rather lightly on this phase of the subject for the reason that there has been no lack up to date in this regard. Indeed, the tendency to overdo and overstate has been so pronounced that conservatism is both better taste and better policy. This note is prominent in the highly commendable report of this committee for the preceding year.

Publications

But aside from the fact that the subject has maintained an unabated interest throughout the year past. it is noteworthy that a number of publications have been made which in a somewhat special manner mark the happenings of recent months.

By way of illustration—"Low Temperature Carbonization of Bituminous Coal," by Andrew McCulloch and Neville Simpkin, while compiled from the English viewpoint, has made comprehensive reference to American as well as German and French developments.

Lander and McKay's Book

Another valuable contribution which has appeared, in fact within the last few months, is by Lander and McKay. Upon the establishment of the Board of Fuel Research on the part of the British Government in 1917, the second main division of the work indicated as the field for research was an investigation of the problems pertaining to the carbonization of coal. This at once led to the necessity of making a careful survey of that phase of the topic which relates to low temperature carbonization. This book, therefore, while not the immediate and direct purpose for which the Board was organized, is really an outgrowth of their work and bears all the characteristics of careful and impartial compilation that one would expect to find from such a source. The work covers not only the investigational work carried on in Great Britain but in the United States as well. No little discrimination, of course, has been required in the selection of the various methods which have been proposed. The related topics bearing upon the subject of low temperature carbonization have been wisely selected and present doubtless the best compilation of investigation along this line which is available at the present time. The work is especially valuable because of free access on the part of the authors to the most recent work of the foremost British investigators. In contrast to some of the published material on low temperature carbonization, both in Great Britain and America, of a somewhat sensational character, the present work has the virtue of being conservative.

A. C. S. Monogram

In the series of monographs sponsored by the American Chemical Society, one number, the 18th, has just issued from the press, entitled "Coal Carbonization." The author is Dr. Horace C. Porter, member of this association, besides many other distinguished characteristics which give him peculiar qualifications for the task of preparing this monograph.

In the opinion of the writer the publications thus referred to are outstanding features for the current year, and they alone, when the perspective of time has had an opportunity to develop, will serve to make the year stand out prominently above its neighbors.

But there are other features of the passing days which add to their peculiar status in this particular.

Notice has been made to the prominent part pure science is beginning to play in the industrial field. Probably in no connection is this more marked than in connection with the current studies on the origin, constitution and properties of coal. The work of Reinhardt Thiessen, published as U. S. Bulletin of Mines No. 117 in 1920, is just now beginning to be appreciated in its bearing upon coal origin and the influence the various components may have upon carbonization processes.

A. G. A. Reports

It was not my purpose at the outset to go so extensively into the matter of bibliographic review, but having gone thus far, the references, to be complete, should include the admirable reports of the American Gas Association for the two preceding years on Low Temperature Carbonization, by J. D. Davis, 1922, and C. V. McIntyre, 1923. These reports are especially valuable because of the completeness with which the various processes have been described and illustrated.

And now with this evidence of the completeness with which the published material has covered the field, it would seem wise not to attempt a repetition of that information in this report. It would be far more important, if it could be done, to give a general view of those projects which seem to be approaching a commercial status. Here again it is believed thta the current year and the next following will prove to be even more outstanding than the characterization given them by references t othe literature of the subject. Unfortunately this phase of the subject cannot be elaborated in a measure commensurate with our wishes in the matter. The reasons are obvious. In the first place, those processes which are just entering upon an industrial status, and there are a number of them, are not willing, nor is it wise at such a time to urge the investigators to say what they are going to do. As a matter of fact, this feature will fall much more appropriately as an inheritance, to the next committee. Then, too, just at such a stage the statements of the promoters, even though well assured in their own minds of their ground, would of necessity take on more or less the aspect of boasting, and it is far better to boast at the time of putting off the armor than when it is being buckled on.

But do not interpret this situation as a discouraging sign. On the contrary, it has a distinctly hopeful aspect. When promoters are found particularly willing to talk, the information is very likely to have not a little of the purport and bearing of hot air. When reticence is the characteristic of the situation a suggestion is implied somewhat along the old adag eto the effect that silence is golden.

At any rate it is a pleasure to close this report with a good basis for congratulating the present status of advancement because of its really hopeful aspects for the not very distant future.

Builders' Section

F. J. Kennedy Chairman

New York, N. Y.

This section of the Carbonization Committee report contains reports from various manufacturers of carbonizing apparatus as follows:

Reports Submitted by Manufacturers of Carbonizing Apparatus

1. Isbell-Porter Company—by J. S. De Hart, Jr.
2. Koppers Company—by Harold J. Rose.
3. Parker Russell Mining and Manufacturing Company—Leigh Wickham.
4. Russell Engineering Company—Vernon Baker.
5. Semet-Solvay Company—Ralph L. Brown.
6. U. G. I. Contracting Company—J. H. Taussig.
7. West Gast Improvement Company—F. J. Kennedy.

NEW GAS GRILL CUTS COOKING TIME IN HALF

A new portable gas grill which not only cuts the time required for cooking by half, but preserves the flavor and juiciness of meat better than the usual broiler, is a recent addition to the modern kitchen.

The steak, chop or fish is placed in a perpendicular holder, similar to a toaster, which slides between two gas-heated grids in the body of the grill, so that both sides of the meat are cooked simultaneously. The juice coming from the meat is caught and kept hot in a vessel below. A clock attachment is set to ring three minutes after the gas is turned on, to call the attention of the cook.

The new grill, which can be set up by itself or added to a range, will cook six chops at once, and the average time needed to prepare various meats is given as follows:

Steaks	3 to 4 minutes
Chops	4 to 5 minutes
Fish	3 to 5 minutes
Cutlets	2 to 3 minutes
Kidneys	2 to 3 minutes